Facilitating Individual Learning

Vol 06, Num 02
Sep-Oct 1968, Pg. 01-02

Brockway, Lee
This brief article describes the design of a middle school utilizing the Open Learning Concept to facilitate individualized learning. The emphasis for learning in such a school is transfered from teacher to student. Photographs are provided.

Innovations in Facilities, Programs

Vol 06, Num 02
Sep-Oct 1968, Pg. 06-08

Sobol, Thomas and Peter Telfer
An abstract of a presentation made by Thomas Sobol at the 1968 Annual Conference. The author presents a pathway leading from theory about students learning to the design of a school seperated into "houses" and is a precusor to the current "house" based middle school concept.

Open Space Opportunities in Middle Schools

Vol 06, Num 02
Sep-Oct 1968, Pg. 02-05

Auther, Eve
A brief description of an open concept design for a middle school. Focus on individual learning and flexible teaching strategies able to cope with future curriculum needs. Floorplan drawings are provided.

What is a Student Centered College?

Vol 06, Num 03
Nov-Dec 1968, Pg. 14-17

Holt, H. Deon
The theme of this article is utilizing the "Total Learning Environment" concept in designing community colleges. The concept basically evolves from the premise that all aspects of the total environment can be utilized in impacting student learning.

Facility Planning

Vol 07, Num 01
Jan-Feb 1969, Pg. 17

Studyvin, Bill
The physical environment is considered to be space with its furniture and facilities. The educational tasks are causing very different approaches to the physical plant furniture and equipment. Each day brings new encounters by advances in technological instructional equipment. It is extremely important that facilities be constructed with maximum flexibility. New technology brings the need for additional and differently trained personnel.

New High Rise Facility for Teacher Education

Vol 07, Num 01
Jan-Feb 1969, Pg. 04-06

Hollis, Joseph and John Dunworth
Ball state University in Munice, Indiana designed and built an eleven story innovative teacher training center for 1,000 students. The first five floors are high density with two lecture halls for 225 students each and one lecture hall for 500 students. The building was constructed for flexibility by using strut framing and abatement of noise by using insulation and carpeting. This educational facility incorporates closed circuit television and audio taping systems. Mechanical systems are designed to support a future second phase structure.

Technique for a Facility Design Planning Conference

Vol 07, Num 01
Jan-Feb 1969, Pg. 07-09

Burr, Donald F.
Twin Lakes/80 is a new planning process for a 1500 student secondary school in the Federal Way School District No. 210. This planning process requires the shedding of traditional boundary concepts. It takes sacrifice, dedication and commitment in the creation of the educational program. A team of not more than fifteen members is created with educators, administrators, planners, and the architectural/ engineering team. The goal is to reduce deficiencies and strive for excellence and the highest quality facilities. An important parameter is the selection of the actual site and a study of its characteristics. The team will spend two to five days together in both structural and constructional time, all meetings are taped and the leader uses both charts and overhead transparencies for each three-hour session.

Yesterday's School for Tomorrow's Education

Vol 07, Num 01
Jan-Feb 1969, Pg. 10-11

Eatough, Clair L.
Many of our nation's school systems are "haunted" by obsolete facilities they can neither ignore nor discard. What kind of education are we giving in these obsolete facilities? Are we really giving our children equal education? Equality in the United States is a myth and yet it is the keystone for the realization of a democratic society. Obsolete schools have no forgiveness and permit no change of plans. It is one thing to become aware of a problem and something else to achieve a solution. The values we place on old buildings and the fact that they are so permanent and costly to replace may account for the fact that while many areas of our culture have progressed rapidly, progress in education has been limited to

piecemeal efforts by a few enterprising districts with courageous leadership. Portable classrooms are obsolete the ay they are occupied. We must establish performance standards for school housing that are not restrictive, but based on the best known concepts to achieve maximum spatial flexibility and environmental comfort.

Add-on Facilities: Complement or Comprimise

Vol 07, Num 02
Mar-Apr 1969, Pg. 04-07

Sande, Ted
The problems that spring up when confronted with adding to existing facilities are often a serious challenge to the ingenuity of the architect, the tenacity of the planner and the insight of the client. Unfortunately, too often the facility solutions to the problem become a compromise to the educational reality of the community rather than a complement to the changed role of the existing facility. The problem of planning add-ons is not very different from the problem of planning a new facility. The major difference is the adaptability of the existing unit and not the adaptability of the addition. The educational planner should make an assessment of the existing facility in terms of the total program and evaluate how well it serves those needs. The planning oath suggests the development of the ED/specs for the program before any design solutions are contemplated.

SCSD: Designing Facilities for Curriculum Change

Vol 07, Num 02
Mar-Apr 1969, Pg. 17-18

Merlo, Frank
Designing schools with rigid interior space is no different from planned obsolescence. Educators have long known that the design, types of spaces, and shape of a school building must be determined by the curriculum. The School Construction Systems Development Project used the basic principle of the system to provide for rearrangement of areas within a school building as new and yet undeveloped curriculum. SCSD uses four separate but integrated structural, mechanical, roof and partition systems. Partitions types are fixed, demountable, operable and folding. The systems approach to building design construction has not been limited to education alone. Many years ago Henry Ford demonstrated to the automobile industry how increased volume directly affects cost.

The Physical Plant

Vol 07, Num 02
Mar-Apr 1969, Pg. 08-12

Lehman, Charles F.
The physical plant of the school is regarded variously by its occupants, c,peratives, and patrons. It is viewed aesthetically as an excrescence or artistic creation. It is viewed architecturally as utilitarian, ornate, inspiring, forbidding, cloistered, mundane, dignified, or garish. However they view it, they judge it most tellingly as a social institution, not as a building. What goes on in the space is the touch-tone criterion. For many the instruction and building are independent of each other. Schools create a congeries of different responses about who goes there, or what goes on there.

When is a Dilemma? A Reaction?

Vol 07, Num 02
Mar-Apr 1969, Pg. 14-16

Philipson, Richard
The educational environment is more dependent upon the mechanical systems than on the building's structural system. In traveling uncertain territory, the traveler looks for guideposts. First and foremost is the client for whom the facility is designed, the human organism. The writer suggests that the functions, requirements and limitations of the human organism mark not only the first but the final guidepost. The technological thrust of our society is perhaps the second guidepost. The third guidepost is represented by the cultural and social thrusts of our society which are demanding additional and more complex services.

Burlington County College

Vol 07, Num 03
May-Jun 1969, Pg. 08-11

Evans, Dean
Every new institution of higher learning has a unique opportunity to break the chains of the past and to pioneer new and more effective approaches to teaching and learning. Few succeed, mainly because of archaic tradition that hovers over higher education, and often inhibits development of the exciting ideas that are so vital to progress in American colleges. Burlington College is an open door institution and is dedicated to extending the privilege of higher education to all who can benefit from the experience. Classroom spaces range from 30 to 500 students. The new campus will enable many variations of the four modes of instruction that offer most promise for the future: 1) Large group or lecture presentation; 2) Laboratory or classroom; 3) Independent study; and 4) Seminar.

The Evolution of Auxiliary Personnel in Education

Vol 07, Num 03
May-Jun 1969, Pg. 12-13

Sands, David A. and Bettye J. Sands
David Sands attended a one-room school for eight years. The older students in the higher grades simply assisted the teacher in performing some tasks for students. This was the beginning of auxiliary service personnel that perform numerous services for the teacher. The workers are known

as teacher aides, paraprofessionals, non-certified personnel, support services, personnel and auxiliary personnel. Training programs were started by colleges in the sixties for teacher support personnel. Provision may be included in facilities planning for auxiliary service personnel.

The Franklin School: A New Job for an Old Facility

Vol 07, Num 03
May-Jun 1969, Pg. 04-06

CEFPI Staff
The Franklin School opened in 1869 in Washington D.C. One hundred years later it was still an education center. After its closing the American Association of School Administrators recommended the establishment of a national education museum spearheading the drive to save the school from demolition. The school was located at 13th and K Streets, N.W., facing a handsome park in downtown Washington. In 1880 Alexander Graham Bell sent the first wireless message over a beam of light to the window of a building some two blocks away. The school was designed by Adolph Cluss in 1864 and was completed in 1869 after many financial overruns were resolved. Franklin School won the Medal of Progress in Vienna because of the explicit model made in exact scale and in sections for transportation. The model was by far a huge success. Some critics felt that the school was too fine a building for a public school and too much money was spent on architectural beauty.

A Creative Facility for the Creative Arts: Miami Dade Junior College

Vol 07, Num 04
Jul-Aug 1969, Pg. 04-06

Ferendino/Grafton/Pancoast — Miami, FL.
The objectives of the college were to provide a facility that would offer its students a creative environment for a pre-professional program of continuing studies in music, drama, and the arts. This unusual facility features a striking visual appearance, not only in its bold, contemporary architecture but in the use of "supergraphics" - abstract letters that are heavily sandblasted into the outside concrete walls that spell out the functions of each building. The letters measure ten feet high and twenty-four feet long. Inside the buildings the "supergraphic" signs are made of plexiglass. white is the regular color, but special graphics in vivid colors are used to get the attention of students.

Changing Patterns of School Design

Vol 07, Num 04
Jul-Aug 1969, Pg. 07-08

Tollerud, Guy
School buildings are changing in their form. Newer buildings may be rambling single-story campus plans, with few outside windows and little, if any, so-called "gingerbread". Economics in construction and the improvement in the techniques and processes of construction are also basic reasons for change in design. Schools now require larger sites due to extensive physical education curriculum and numbers of students and staff. Previously, the ear was the principle teaching-learning body sensory mechanism. Today the eye has become the important sensory learning mechanism. This has brought about changes in the use of visual and audio devices, overhead projectors, opaque projectors, picture projectors, slide projectors, video tape recorders, and television. The amount of exterior windows has been reduced. The need for windows now is mostly psychological, but for the well being of students a window should be required in each classroom.

Projection for the Seventies

Vol 07, Num 04
Jul-Aug 1969, Pg. 09-20

Peterson, Fred, John Cameron, Edwin Bailey, Lester Haeckel, Eldon Teten, and Edward Campbell
The decade of the seventies will probably witness more changes and new ideas than any decade in history. The new emphasis will be on learning rather than teaching. Learning will be more active and self directed. Master planning will become the rule and flexibility, flexibility, flexibility will become the charge. The content matter of many academic disciplines once thought of as reserved for the upper levels of the school system has been moving downward in age and grade level offering. Reorganization of Secondary Education in 1918 included health, command of fundamental processes, worthy home membership, vocation, civic education, worthy use of leisure time, and ethical character. The philosophy was "Everything for Everybody". The key word for secondary education today is flexibility. Architects have been described as a professional engaged in designing physical environments compatible with the purpose of the human activity occurring in or around the object of design. The nature of the master plan will be such that future facilities can change in size, shape and location to allow constant adjustment to the ever-changing needs.

Microteaching: Structuring the Art of Teaching

Vol 07, Num 05
Sep-Oct 1969, Pg. 20-21

Merlo, Frank
Dr. Merle completed thirty-five school building curriculum studies in the past ten years. He states: "I've come to the conclusion that any innovative facilities or programs will only be as effective as our ability to motivate teachers and allow them to try new approaches." Most critics fail to mention that the primary cause of teacher failure at all levels of instruction is not their grasp of the subject matter, but a basic inability to deliver what has to be taught to the learner. Video tapes are now used in practice teaching to develop specific techniques of delivery. Some of the isolated techniques to be mastered

are: How to reinforce or extinguish behavior; use of body movements for emphasis; gearing instruction to the real world of the adolescent; using questions effectively (probing); determination of readiness for learning; use of gestures and facial expressions; how to prompt motivation; achieving closure of a lesson and use of silence.

Planning Tomorrow's Facilities for Vocational-Technical Education

Vol 07, Num 05
Sep-Oct 1969, Pg. 04-05

Nerden, Joseph T.
Many of the new and proposed facilities are in the planning stages now. Some of these facilities will require that extensive provisions for flexibility be an integral part of the original plans, while in other situations the facilities will resemble very much traditional structures and those that are currently in use. Changes in equipment and changes in curriculum will necessitate building changes. Changes in facilities for vocational-technical education will come about due to changes in teaching technology and methodology. many classrooms may be equipped with study carrels for computer-assisted training. Closed circuit television will have an impact on instruction and also live broadcast television in tiered lecture rooms for observation.

Memphis in Perspective

Vol 07, Num 06
Nov-Dec 1969, Pg. 04-08

CEFPI Staff
A review of significant events from the 46th Annual Convention: Change... Change... Change. Change was surely the most significant factor during the conference. Change was reflected in the organization and the following: role of facility planners, prefabricated facilities, combined occupancy, decentralization, early childhood, fast tract, food service, community role, furniture, special education, vocational/technical education, demography, environment, etc. The new By-Laws adopted established "Regional Associations" at CEFP. The purpose of a regional association is to stimulate involvement and interaction of Council members in pursuing council goals and objectives at the local level.

Profile of Purpose

Vol 07, Num 06
Nov-Dec 1969, Pg. 05-10

CEFPI Staff
The Council was originally established March 2, 1921, in Atlantic City, New Jersey. Its original purpose was to establish standards in design, utility of space, healthful conditions, safety of human life and economy of expenditures. The original name was "National Council on Schoolhouse Construction." The name was changed in 1967 to "Council of Educational Facility Planners", and membership was opened to architects/engineers. CEFP had four standing committees as follows: Planning & Development, Communications, Professional Services, and Research. In 1969 new by-laws started the "Regional Associations" to stimulate involvement and interaction of Council members in pursuing Council goals and objectives at the local level. Awards presented are as follows: Planner of the Year; School of the Month; Distinguished Service; Service citations.

Contemporary Education in a Woodland Setting

Vol 08, Num 01
Jan-Feb 1970, Pg. 04-06

Schutte-Mochon, Inc., Nicolet College and Technical Institute
Nicolet College and Technical Institute in Rhinelander, Wisconsin, has developed a master plan which implements a unique pilot program that equally combines liberal arts and vocational-technical training. The plan incorporates a six-unit campus divided into three construction phases. The six-unit centers are Science, Business Education, Learning Resources, Campus, Recreational and Art-Tech. An "open design" concept is used throughout. The Nicolete concept is that increased exposure to a wider range of subjects will benefit all students and give those who are undecided an insight into other fields before making a commitment to a future career. As a result, an unusual intermix of study groups occurs like art with shop, retail display/sales students with fashion design and home economics students, and vocational students training in electronics sharing physics labs with science students. The building structures will be two level with a "chalet-styled" residential character on a 280-acre wooded site at the edge of Lake Julia. Housing accommodations will not be considered until demand appears ready to exceed supply.

ERIC/CEF: Get Ready ... Get Set ...

Vol 08, Num 01
Jan-Feb 1970, Pg. 07-08

Collins, George J.
ERIC, which stands for Educational Resources Information Center, is a national information network for acquiring, abstracting, indexing, storing, retrieving and disseminating the most "significant" and "timely" educational reports, research, articles and speeches. Our special clearinghouse for educational facilities (ERIC/CEF) was activated at the University of Wisconsin in the summer of 1967. We are in the midst of a sensational expansion of knowledge and information which must be acknowledged as a two-edged sword. On one side, it is a major achievement and a benefit for our time. On the other side, it has become a major challenge to locate pertinent information quickly. The ERIC system is designed to collect all relevant information concerning a specific topic, analyze for usefulness and index.

This information is produced and copies made available at a reasonable cost for anyone who needs it- Approximately 3,000 documents have been indexed and classified to date. "Research in Education" (RIE) is the monthly announcement bulletin for the ERIC system and is available in many libraries.

Florida's Systems Schools

Vol 08, Num 01
Jan-Feb 1970, Pg. 09-16

CEFPI Journal Staff, Dr. Harold Cramer, James. Y. Bruce, AIA
A systems school is duplicating the basic building components and incorporating flexibility as a characteristic for future change. This volume purchasing of building components plus more efficient use of building through its adaptability should result in more schools for fewer dollars. Florida's interest in the systems approach started as a result of initial achievements made in the SCSD Program in California. "Educational need" was the primary motive behind Florida's entry into the systems approach. Florida is undergoing rapid educational change. Adaptable space was a basic assumption of the user requirements so that a change in educational program could be accommodated. After three sequential construction programs were completed, the end result was a cost reduction of 20% below conventional construction costs. The use of demountable partitions enables the school to totally reorganize walls within the building shell to accommodate any educational program changes and related spacial requirements.

Computer Results of the Educational Facility Planners Survey: Part one - Who Are We and What Do We Do?

Vol 08, Num 02
Mar-Apr 1970, Pg. 07-15

CEFPI Staff
In September of 1969 CEFP members and other interested groups in educational facility planning were provided with a questionnaire prepared by Paul Thomas of Charleston, West Virginia, in cooperation with Ohio State University. The purpose of the questionnaire was to gather data which could be used to develop a profile of the "Educational Facility Planner" and to determine his professional needs and role. The questionnaire was in two parts: "Who are we and what do we do?" Part two was completed later. Part one includes the following questions: 1) General classification of employment; 2) Level of college preparation in each field; 3) Present occupation; 4) Present occupation in state, national or province; 5) Present occupation with colleges; 6) Present occupation with architectural/engineering/consulting firm; 7) Present occupation by other titles; 8) Influence on facility planning by individuals employed in public and private schools; 9) Influence on facility planning by individuals employed by state, national, or province; 10) Influence on facility planning by individuals employed by colleges; 11) influence on facility planning by individuals employed by architects/engineering/consultants.

The Changing Role of the School Board Member in Educational Facility Planning

Vol 08, Num 02
Mar-Apr 1970, Pg. 07-15

Webb, Harold
In 1970 there were over 100,000 school board members. The role of the school board member is ever changing. Time was when citizens thought that school board members would vote either yes or no to questions from the Superintendent. Today's school board members are very active and include probing. The times require that school boards take the offensive and not let themselves be pushed against the wall. School board members approved more than 3.7 Billion dollars in construction projects. School board members have broad powers and face difficulties in meeting some of those obligations. Property taxes continue to dwindle, which forces critical decisions in facilities while trying to meet the needs of the district. School board members will become more involved as follows: 1.) Boards expect to coordinate the efforts of specialists 2.)Boards are insisting that planners work within the financial limitations 3.) Boards expect planners to understand the prime reason for educational facilities; that is, a place to study and learn 4.) Boards want a school designed for recreation and play 5.) Boards want a school planned for special use facilities 6.) Boards want flexibility in design. They want a school's changing character to be continued.

Humanizing Schools: The Community School Planning Process

Vol 08, Num 03
May-Jun 1970, Pg. 08-11

Steele, Marilyn
The Community School humanizes education from the involvement of people in the planning process to the education of people from birth to death. The Community School educates both children and adults in multi-purpose facilities which may include K-12 instructional programs, adult education youth enrichment and recreation, adult job training and re-training, center for community services and others. In planning the Community School facility, the community defines the goals. The planning team defines the program and the architect designs the building. There are three phases to this design process. First, the Research Phase involves selecting team members and organizing community resources. Secondly, the Charette Phase requires determining local needs and developing community goals. The third and last phase is the Design Phase. This phase is composed of designing the program and architectural design which is fitting the building to the program.

Planners..! Your Systems Schools are Under-Achievers

Vol 08, Num 03
May-Jun 1970, Pg. 04-06

Univer, Irving O.
The American demographic scene is rapidly congealing into a relatively few, large, amorphous globs of population masses called megalopolis. Two characteristics of a megalopolis which school planners must find a remedy are unpredictable self-renewal and continuous densification. The predictability of enrollment (classroom needs) within two or three years is difficult in a megalopolis. School planners cannot continue planning permanent facilities in the midst of communities of impermanent characteristics when modern technology provides us a means to avoid these errors. Partial demountability of walls is this modern technology. The partial demountability criteria is composed of two concepts - core component and demountable component. The flexibility that demountable partitions give a school also allows for any long or short term classroom needs and will eliminate the problems caused by megalopolitis.

Arlington's Unique Education Center

Vol 08, Num 04
Jul-Aug 1970, Pg. 18

CEFPI Staff
The Arlington County Education Center is a striking, five-story building that houses the county's school administrative functions. The first requirement was for the building design to reflect the image of the school system as seen from Route 66, a main arterial highway into Washington, D.C. on which the building fronts. Ward and Schneider of Cleveland, Ohio designed the building in the shape of a quarter circle, with a circular planetarium in front as a focal point. The site is 3.6 acres with a 40-foot bank differential in elevation that curves throughout. The main entry floor level extends beyond the face of the building to provide a surrounding terrace, and the top floor overhangs the main structure by about nine feet around the entire building. on the ground floor are elements that require in-and-out movement such as material handling. The first floor has elements most often visited by the public, such as the school board room. The second floor is devoted toward continuing development of new curricula and teaching methods. The third floor houses all educational supervisors and staffs, and the administrative staff is located on the top, or fourth floor. Construction costs were about $25 per square foot or $1.484 million total.

Miami Dade's Mini-Charette

Vol 08, Num 04
Jul-Aug 1970, Pg. 20-22

Fryer, Thomas
The planning for Miami-Dade Junior College's new downtown campus involves the resolution of several problematic issues including: 1) starting from scratch with the planning of a comprehensive community college campus to serve 10,000 students; 2) project located on a small 3.3 acre site; and 3) site located in the blighted core of a major metropolitan city. The planning project was divided into three phases: 1) data gathering, review, and establishment of community relationships; 2) conceptualization of the new campus and its objectives; and 3) preparation of educational specifications for Phase I construction. An innovative planning process called "mini-charette" was developed because of the short time constraints. A normal charette would take two weeks. The mini-charette would take three days. The goal was to review and critique the planning document consisting of ten committee reports. In retrospect, Miami-Dade's mini-charette seems to have been a success, because it brought together a diverse cross-section of people who were extremely important to the project and gave them an opportunity to discuss the idea of a new educational facility designed to serve miami's inner-city area. The college's new campus will be stronger for this experience.

New Directions in School Furniture (Elementary - Secondary)

Vol 08, Num 04
Jul-Aug 1970, Pg. 09-16

Rogers, John B., and Donald F. Burr
Rogers, Nagel, Langhart Architects embarked on a project to develop a new type of furniture designed specifically for open classroom concept elementary schools. In this type of school setting, it became necessary to design portable, visual storage units that would act as dividers of function as well as fulfill the needs for storing tote-tray units for chalkboards, for student wardrobes, for books and display units, and for the teacher's storage and work units. One notable observation was that children almost always chose a soft floor space to a chair and desk. Also, individual desks were pushed together in order to gain a table-like surface. Flexibility and compactness are the key characteristics of furniture which functions best in an open classroom concept. The New Castle Rock High School in Tacoma, Washington has initiated a new concept in learning which provides that each student should be allowed to proceed at his own pace and in his own direction. To implement this concept, Castle Rock decided to organize their students into "student learning centers". Those centers give the student a place to "hang his hat" - a place that can be his own work/study center in a facility that no longer works with a traditional classroom approach.

Fulton-Montgomery Community College: Two Views

Vol 08, Num 05
Sep-Oct 1970, Pg. 04-06

Gragg, William L., and Edgar Tafel, AIA
The Community College's planning committee was attentive to the elements of the building that make it functional. Adequate office space was a must and the unnecessary

auditorium was deleted. Campus planning is the product not only of well marshalled data but also of well tended human relations. Mutual trust between the planning committee and architect must be obtained in order to establish a strong link of communications. Each stage of planning was marked by a review of progress. Careful groundwork, good communication, and faithful adherence to plans produced a complete campus well within budget. The architect stated that designing a community college was like designing a small town. Meetings with the trustees were held at decisive stages; schematics, preliminaries, working drawings and the taking of bids. The planning cycle took twenty-two months and the construction required twenty months. Students have shown over the past year and a half a remarkable appreciation and respect for the facilities.

New Trends in Education

Vol 08, Num 05
Sep-Oct 1970, Pg. 07-14

CEFPI Staff
New educational trends for the seventies are as follows: 1.) Individualized learning - Students have different emotions, capabilities and needs 2.)Changing role of the teacher - The teacher is the manager, counselor, listener and supervisor 3.)Learning experiences in the community - Working in the community 4.)Learning path of a student - Large group and small group 5.) Flow, not surge, Individual movement 6.)House grouping, Students with similar needs 7.)Open space planning - Different size groups.

The School Board Member Revisited

Vol 08, Num 05
Sep-Oct 1970, Pg. 15-16

Sheathelm, Herbert H.
What is the proper role of the board member in educational facility planning? Some board members feel that their job is a big job and getting tougher, along with being a thankless job, and there is a need for more community involvement. Many community residents feel that boards of education do not represent them. Listed below are expectations of some board members. 1. Boards expect to coordinate the efforts of specialists. 2. Boards are insisting that planners work within financial limitations. 3. Boards expect planners to understand that school is the place to study and learn. 4. Boards want a school designed for recreation and play. 5. Boards want a school designed for special use facilities. 6. Boards want flexibility in design. With the additional responsibilities that boards have assumed, many communities are holding them liable for their decisions. We need informed, responsive, and courageous board members concerned about the broad issues facing education and willing to make the big decisions even though they may be unpopular. We also need board members who understand the appropriate process.

Flexibility in School Design

Vol 08, Num 06
Nov-Dec 1970, Pg. 08-10

Puderbaugh, Homer L.
Flexibility, as defined by Webster, is "that ability to be susceptible to modification, adaption, or change". It is that which is capable of being adapted, modified, or molded and the quality of being willing or ready to yield to the influence of others. The paramount question is whether flexibility, in fact, manifests itself in social change, in the institution of education, or in the physical facilities. Flexibility requires long-range planning so that changes can be completed effectively and efficiently. Structural appropriateness increases with the post and beam system.

The System to System

Vol 08, Num 06
Nov-Dec 1970, Pg. 04-07

Ehrenkrantz, Ezra D.
The "systems approach" may be defined as a process which is based on viewing a problem as a set of inter-related, interdependent parts which "work together for the overall objectives of the whole". Based on this premise, the design process may be organized so that decision making may take place rationally and consistently, minimizing the deceptions of narrow-minded thinking. A portion of the systems approach is based on past construction performances and costs. "A systems approach to building can take place either with conventional products or newly developed ones. if we are to maintain a position of leadership in the determination of our physical environment, we must take a major role in advocating the changes which will result in improvement of that environment."

Discarding an Old School Building

Vol 09, Num 01
Jan-Feb 1971, Pg. 11-12

Merlo, Frank P.
Merlo discusses the difficulty in convincing the public to dispose of an obsolete school facility. He distinguishes between an architecturally obsolete building and an educationally obsolete building. Whereas architectural obsolescence refers to the structural condition of the building, educational obsolescence refers to whether the building is suited to the needs of the desired educational program. Educational facilties should be flexible enough to meet today's needs and tomorrow's challenges.

The Plan was Great, but the Issue Failed...

Vol 09, Num 01
Jan-Feb 1971, Pg. 4-5

Yantis, John
Using case studies as a guide, Yantis summarizes factors that encourage successful school bond passage. Yantis suggests the development of an effective public relations program to counter negative views of taxpayers. Such a program would not only keep the community informed of the plan, but actively involved as well. Blockworkers, a publicity committee, a speaker's bureau, and a finance committee can also serve as resources.

A Systems Approach to Facility Planning

Vol 09, Num 02
Mar-Apr 1971, Pg. 10

Johnson, W. Frank
Johnson summarizes the system approach and presents a basic system design for planning educational facilities. The system approach facilitates the mangement of educational facility planning.

What School Furniture will Look Like Tomorrow

Vol 09, Num 02
Mar-Apr 1971, Pg. 4-7

Burr, Donald F.
Burr forsees future trends of individualized learning, changing teaching styles, and increased community involvement affecting classroom furniture design. Schools will move from lecture style set-up to more flexible styles that will accomodate discussion and small group work. They will facilitate mobility and multiple uses. Furniture design of the future will change to meet the needs of the changing educational curriculum and learning styles.

How Do We Get There? A Reaction to New Trends in Education

Vol 09, Num 03
May-Jun 1971, Pg. 7-16

CEFPI
A diverse panel of education representatives respond to issues relating to new trends in education. Topics addressed include: educating teachers to meet future needs, creating a humanized curriculum, educator responses to new trends, educational improvements, and the superintedendent's role in responding to change.

The Total Living Environment

Vol 09, Num 03
May-Jun 1971, Pg. 4-6

Brubaker, Charles William
Brubaker discusses the total living environment—one that incorportates natural and man-made, the old and the new in one setting. Providing several cities as examples, Brubaker discusses the development of New Towns and the rebirth of old neighborhoods in response to urban growth.

An Ecologist Looks at Modern School Design

Vol 09, Num 04
Jul-Aug 1971, Pg. 10-11

VandenHazel, Bessel J.
Current school building designs—compact, windowless buildings that need large amounts of electricity to operate—are not ecologically feasible. Our energy resources are close to depletion, and pollution levels are steadily increasing. A concern for the environment should impact the future of school design. New school buildings should be able to operate in normal climatic conditions with a minimal amount of energy expended.

Planning New Space for Old Schools

Vol 09, Num 04
Jul-Aug 1971, Pg. 12-13

Brooks, Kenneth
Brooks presents an overview of the Institute on "Revitalizing Existing Space" at Ohio State University. Planning teams designed solutions for two case studies—a high school building to be renovated to acommodate a new, innovative program, and a high school to be converted to a community college. Participants learned new ways to revitalize existing space and the advantages of team planning.

Space: A Catalyst for Education (A Teacher Looks at Open Space)

Vol 09, Num 05
Sep-Oct 1971, Pg. 15-16

Shaw, Gayle G.
Shaw describes the positive experience she had teaching in an open school. She witnessed excitement and creativity among her students, and saw her role change to more of a learning facilitator. Shaw's experience leads her to advocate open space school buildings over traditional closed style classrooms.

Space: Calalyst for Education (An Educator Views Open Space and the Planning Process)

Vol 09, Num 05
Sep-Oct 1971, Pg. 12-14

Justus, John E.
Justis presents data gathered from interviews with 20 randomly selected 6th graders and all sixth grade teachers in an open space middle school. The data suggests that students and teachers both tend to be distracted by noise levels and student movement in the open school. Teachers commented that it was sometimes difficult for students who were not self-disciplined to adjust to the open space school. Justus suggests a planning alliance to develop truly adaptable open space designs that meet both present and future needs.

Space: Catalyst for Education (Open Space: A Status Report)

Vol 09, Num 05
Sep-Oct 1971, Pg. 7-11

Brunetti, Frank
Brunetti describes the trend toward the open design of schools. Pioneers of the open school believed that this design would facilate individualized instruction, as well as flexible and innovative use of space. Brunetti presents results of a study on the effect of the open space design on student learning. Students in open schools self-reported a higher degree of self-direction and independence than students in conventional classrooms. In addition, teachers reported a higher degree of self control in open space classrooms. Data on noise levels and privacy issues are also discussed.

The Great Room: Flexible Space for Education

Vol 09, Num 05
Sep-Oct 1971, Pg. 4,17,18

CEFPI
The design of a "great room" at a Rhode Island High School created a school resource the size of 24 classrooms. Many teachers were unable or reluctant to adjust teaching styles to work in the large space. Screens were used to provide space flexibility and privacy. Loft spaces provided additional instruction areas.

Student-Community Involvement in School Facility Planning

Vol 09, Num 06
Nov-Dec 1971, Pg. 4-6

Candoli, I. Carl
Candoli presents the advantages of involving the community in the planning process when designing new school facilities. Community involvement encourages community use after the facility is completed. Community planning also reduces the likeliness of the school design conflicting with community values. Furthermore, planning teams should reflect the racial/ethnic makeup of the community for which they are designing the school. Planners need to be open to community involvement.

Growing into Tomorrow

Vol 10, Num 01
Jan-Feb 1972, Pg. 4-6

Brooks, Kenneth W.
Brooks provides an overview of the growth of the Columbus Technical Institute since 1963. As the Institute grew in enrollment and programs offered, the facility was re-designed and expanded to accomodate their changing needs. In addition, a master plan exists to further expand the campus in anticipation of continued growth. Columbus Technical Institute serves as a case study for future developments of this type. Planners were able to utilize an older building as the base for expansion and develop an attractive campus on an accessible site.

The Perils of Planning

Vol 10, Num 01
Jan-Feb 1972, Pg. 7-9

Bulpitt, Mildred B.
Bulpitt describes how the facility planner may successfully manage the planning process and group politics within the planning team. Potentially problematic personalities in the planning process are discussed, along with ways to make them constructive team members. Special suggestions for first time planners are also included.

Accountability in Planning Facilities

Vol 10, Num 02
Mar-Apr 1972, Pg. 4-7

McGuffey, C.W.
Accountability in education extends to the school facility. Those involved in the facility planning process should be held accountable for the end result, but only for the outcomes which they had the power to affect. The roles of each person in the planning team must be defined in advance of the project. Performance indicators can be used to assess results. Accountability must also exist in the construction of schools; a "performance management system" would encourage accountable construction management. An accountable utilization of facilities requires the establishment of goals, as well as staff assignments that help meet these goals. Accountable facilties administration would include a comprehensive building assessment and an understanding of how well the facility meets the needs of the educational program. McGuffey includes a formula for determining school building performance. Accountability in school facility planning and utilization would increase our understanding of

the effectiveness of school buildings and increase their utilization. Models of the facility planning process and facility evaluation are included.

Cutting Hidden Costs in Planning and Construction of Educational Facilities

Vol 10, Num 02
Mar-Apr 1972, Pg. 9-12

Tarapata, Peter
Tarapata presents information on potential hidden or unplanned costs in various aspects of school facility planning. Effective master planning can reduce costs and increase program effectiveness in the long run; the plan should accurately reflect future needs, yet remain flexible enough to accomodate unforeseen changes. Districts should consider interest costs when borrowing money, and avoid duplication of attorney fees. Tarapata recommends testing the plan before its implementation, including all systems internal and external to the building. Districts can evaluate the expense and usefulness of codes. Obtaining professional help in finding a site is recommended; districts should choose a site that will meet a community's anticipated growth.
Construction costs can be reduced through implementation of construction management techniques. Districts should time project bidding with weather and labor availablity considerations in mind.

Researching the Effects of Open Space

Vol 10, Num 02
Mar-Apr 1972, Pg. 13-14

Kyzar, Barney L.
Kyzar studied different aspects of open space schools through classroom observation and use of noise instruments. Open-plan schools were found to reflect modern educational principals more than conventional schools. Teachers in open schools tended to view the absence of walls in a negative manner. Noise levels in open school classrooms were significantly higher than in conventional classrooms, but not to a degree which would appear to affect performance. Kyzar concludes that noise levels do not seem to be a problem in the open space schools he observed, but that teachers may perceive a noise problem due to lack of visual security. Kyzar recommends training teachers and staff to operate within the open space school design to encourage effective program implementation.

Facility Alternatives: A Synopsis of Ideas

Vol 10, Num 03
May-Jun 1972, Pg. 8-11

Brooks, Kenneth W.
Brooks provides a synopsis of ideas presented at the "Facility Alternatives when Money is Tight" Workshop. Unused spaces in school facilities can be made into new space with minimal cost. Non-school facilities such as parks and churches experience low public use during the school week and could be used for educational activities. Alternative delivery systems such as television and radio may also be incorporated into lesson plans. Extending school hours is another way of increasing facilty capacity. Mobile classrooms and abandoned facilities provide other options. The organization and operation of schools may be altered to increase facility use. Financing and architectural options are also provided.

Occupational Space Flexibility Through Space Sharing

Vol 10, Num 03
May-Jun 1972, Pg. 4-7

Woodruff, Alan P.
Station sharing and space sharing facilitate a flexible learning program. Station sharing is the sharing of a single space by groups participating in a single activity. Space sharing refers to the use of a single space by multiple programs engaging in different activities. Woodruff presents examples of space sharing, along with illustrative diagrams. Program analysis is needed to assess the potential for shared space within a facility.

More New Trends in Education

Vol 10, Num 04
Jul-Aug 1972, Pg. 7-10

The Educational Task Force of the CAE
Current trends in facility design are discussed, including modified open space designs, house schools, and encapsulated space designs. Though widely applied, open space designs are often misunderstood. More schools seem to be sectionalizing larger areas to accomodate small group/ individual activities. House schools would provide young children with a smaller, home-like learning facility. Encapulated space is a flexible and effective way to accomodate increased enrollments and curriculum changes.

Construction Management: Legal Implications

Vol 10, Num 05
Sep-Oct 1972, Pg. 8-11

Collins, George J.
Collins discusses potential liability issues for construciton managers regarding topics such as project completion delays, variances on contractual terms, inability to complete the project, and third party interference. An overview of damages and restitutions is also included.

Construction Management: The Team Concept

Vol 10, Num 05
Sep-Oct 1972, Pg. 4-7

Tropf, Carl F.
Tropf explains the meaning of construction management and provides an organizational model for building facilities that improves upon traditional methods. In Tropf's team-based model, the owner, architect and construction manager work together to plan the facility, with the owner overseeing the cost and design aspects. The architect and construction manager are paid a lump sum rather than a percentage of the total cost. The team method results in an estimated savings of 20 to 40 percent on construction costs. This method also shortens the project timeline, as the planning/design, bidding and construction processes can all be overlapped.

Analyzing Detroit's Initial Systems Project

Vol 10, Num 06
Nov-Dec 1972, Pg. 8-11

Featherstone, Richard L.
Featherstone assesses a Detroit Public Schools pilot project of four high school additions performed under the Construction Systems Program (CSP). The CPS program suceeded in reducing construction time and costs and improving flexibility and building function. Use of a management contractor, along with active owner and school board, helped reduce construction time. Overlapping of planning and construction activities was found to save time as well. The CSP program has the potential to impact the future planning of Detroit Public Schools.

Selecting School Sites

Vol 10, Num 06
Nov-Dec 1972, Pg. 4-6

Ringers, Joseph Jr.
Ringers presents an overview of factors to consider when choosing a school construction site. Sites should be selected two years in advance with projected growth in mind. Issues such as zoning, public transportation, roads, utilities and property values should be considered in advance of site selection. Potential problems with site selection in urban settings are discussed, as well as design solutions, such as compact/multi-level schools or schools from alternative space.

Certification Program for Luminaries

Vol 11, Num 01
Jan-Feb 1973, Pg. 7-8

Gibson, Charles D.
Gibson proposes a CEFPI certification program for approving luminaires. CEFPI would set performance specifications according to what is recommended in the current research. Lists of approved luminaries would be distributed to the CEFPI membership.

More Than Additional Space....

Vol 11, Num 01
Jan-Feb 1973, Pg. 4-6

Wilcox, Edward F.
Wilcox describes the process of renovating an elementary school from a "cells and bells" design to an open space design, while working within time and cost limits. The planning, design and construction process was completed on schedule and within a $500,000 budget due to the cooperative team work of the principals involved. Floor plans are included.

Needed: Playground and Park Solution: Go to the Roof!

Vol 11, Num 02
Mar-Apr 1973, Pg. 12-13

The East Orange Middle School
The East Orange Middle School serves as both a school and a community center, with a playground/park on its roof. The building has an open space design, utilizing loft spaces and flexible areas. The school is organized into three "houses," each serving 300 students. All houses have shared access to the physical education and dining areas. East Orange Middle School serves as an example of flexible use of space in educational facilities.

Orienting New Users to New Spaces

Vol 11, Num 02
Mar-Apr 1973, Pg. 9-11

Cramer, Harold L. and James R. Barnes
Cramer and Barnes comment on the suspicion frequently encountered when introducing administrators, educators and community members to new and innovative uses of space in new educational facilities. However, innovative space is necessary for innovative educational programs—users must be oriented to the benefits of the new design and informed of how they can incorporate the features into their curriculum. Collaborative planning can increase the facility's effectiveness as a learning resource. Organizational aspects of the planning program are outlined.

Research: Cost-Benefit and School Physical Environment

Vol 11, Num 02
Mar-Apr 1973, Pg. 7-8

Wilkerson, William R.
Research shows that environmental factors affect

performance and learning. Wilkerson proposes research to assess the social costs of environmental stresses in the educational environment, such as future income levels, employment, health expenses, etc. A social responsibility exists to provide an optimum learning environment in our schools.

Research: The Influence of Educational Thought and Practice on the Educational Environment

Vol 11, Num 02
Mar-Apr 1973, Pg. 4-5

Wakefield, Howard E.
Architectural changes in the design of schools do not necessarily result in learning improvements. The traditional "Quincy Grammer School" classroom design was found to have negative effects on physical aspects of child development. The effect of current design trends, such as open schools, on the learning process needs to be evaluated.

Research: The Role of Architectural Design

Vol 11, Num 02
Mar-Apr 1973, Pg. 6-7

Bloomfield, Byron C.
Bloomfield discusses the effect of environmental conditions related to vision, sound, and body alignment, on educational objectives. He proposes that human function be a consideration when designing educational space. Future areas of research inquiry are suggested.

A "Scoop of the Sky" for LaVerne College

Vol 11, Num 03
May-Jun 1973, Pg. 4-7

CEFPI
LaVerne College, established in 1891, is a liberal arts higher education institution with a "learning" based curriculum. The College underwent a renovation of the student union, physical education and arts facilities. Student body concerns contributed largely to design decisions. A permanent lightweight structure was created, allowing flexible use of space at an affordable cost. External materials are described, as well as the heating and cooling system.

Rebuilding a School: Four Views on Community Participation

Vol 11, Num 03
May-Jun 1973, Pg. 8-12

Saunders, Harry, Ray Butler, Bob Kennard, and Al Whittle
Four school and architectural representatives discuss the planning process for the design of a new Los Angeles High School after the original, historic building was destroyed in an earthquake. A school-community advisory committee was established, involving educators and community members in the planning process. Each of the four representatives expressed positive experiences with the collaborative planning process. Community involvement resulted in a facility that met community needs. A open design was selected, due to the need for flexible space to accomodate future change. Overall, the representatives believed that community involvement in planning resulted in a better school.

Energy Conservation: Dealing with Energy Conservation Alternatives

Vol 11, Num 04
Jul-Aug 1973, Pg. 15-16

Stein, Richard G.
Stein provides an overview of the impending energy crisis and provides a model of how education might cope with energy shortages. Facility building and maintenance equals about one-third of total energy consumption, and school buildings represent about 7 percent of all facilities. Stein was involved in creating a "research, building and evaluation program" which will evaluate energy use by schools and explore alternatives using computer simulation. A model "low energy" school will be designed, along with energy monitoring equipment. The institutions of architecture and education must establish a committment to preserving environmental resources.

Energy Conservation: Effective Seeing in an Era of Energy Conservation

Vol 11, Num 04
Jul-Aug 1973, Pg. 12-14

Crouch, C.L.
Crouch provides a brief background on the history of vision and lighting research. Studies conducted by the Illuminating Engineering Research Institute led to published recommended lighting levels. Such studies help set standards and identify potential areas of energy waste.

Energy Conservation: Facing Up To The Energy Crisis

Vol 11, Num 04
Jul-Aug 1973, Pg. 6

McGee, Jerry C.
Current and future educational facility planning should incorporate energy saving designs to prepare for an eventual energy crisis. Energy saving techniques could include improved insulation, use of effective equipment, and improved transportation procedures.

Energy Conservation: Study of the Potential for Energy Conservation in Schools

Vol 11, Num 04
Jul-Aug 1973, Pg. 9-10

Stephan, Edward
Stephan describes preliminary results from a study conducted on several representative schools in the Fairfax School District to assess energy consumption rates. Each school studied utilized a different fuel source. A thorough facility evaluation was conducted and utilized in a computer performance study, where consumption and costs were determined for each facility given certain variables. Thereby, the effectiveness of energy consumption patterns were assessed, as well as the potential effect of operation changes and building alterations on energy use.

Fuel Supply and Selection

Vol 11, Num 04
Jul-Aug 1973, Pg. 7-8

Dell'Isola, A.J.
The eventual energy crisis makes a thorough evaluation of educational facilities imperative. Such an evaluation would provide accurate data on energy consumption rates and costs. A sample study format is presented. It is demonstrated that higher initial HVAC costs can lead to long term savings in energy consumption costs.

Evaluation of Expenditure Alternatives

Vol 11, Num 05
Sep-Oct 1973, Pg. 4-7

Poehlein, Gary W., Santore, Anthony C. and George P. Zajacek
Unlike businesses, schools do not typically analyze their capital expenditures due to the difficulty in attaching costs to the non-concrete return of quality education. However, districts can benefit from capital expenditures analysis. A technique for analyzing such expenditures is presented, using the "present value system." Formulas and sample problems are provided.

The Effects of the Educational Facility on Social and Emotional Learning

Vol 11, Num 06
Nov-Dec 1973, Pg. 4-6

Caffarella, Edward P.
Caffarella presents information on the effect of facilities on learning from three perspectives: educational facility planning, communication, and psychology. Limited data is available regarding the relationship between the facility and the quality of learning. Communications literature describes a link between seating and other architectural arrangements to interpersonal communication. Psychological research suggests a connection between environment and attitudes. These studies contribute to our knowledge of the envionment's effect on learning, but more direct research on the effect of educational facilites is needed.

Freedom for Diversity in Education

Vol 12, Num 01
Jan-Feb 1974, Pg. 4-6

CEFPI
Freedom High School in North Carolina was designed for diversified education along general education and an occupational curriculums. The two curriculums were housed in separate sections, yet shared certain central common areas. Freedom provides an example of educational facility design that facilitates the educational program. Outstanding features are discussed and floor plans are presented.

School Planning Has Its Own "Ghettos"

Vol 12, Num 01
Jan-Feb 1974, Pg. 7-8

Lucht, George
Teachers, students and community members who want to be involved in the planning process, yet have not been exposed to new developments in educational facilty design, are operating from an educational "ghetto." They must be exposed to new and modern facilities to broaden their vision of the possibilities. The financial cost would be a worthwhile design investment; informing educators about facility planning and design results in quality educational specifications.

Designs for the Urban Educational Facility

Vol 12, Num 02
Mar-Apr 1974, Pg. 7-9

Subcommittee on Urban Education of the AIA Committee on Architecture for Education
Options for designing educational facilities in urban districts are discussed. Site selection in urban areas is often problematic, as large lots are often unavailable and/or expensive. Smaller schools on smaller lots is one design solution. Another option is the creation of schools that serve as community centers, or schools that share occupancy of commercial buildings. Year round school programs and open designs also reduce costs. Socio-political factors in school planning must also be considered, such as the use of a school building as an racial integration tool. Designing urban schools presents special challenges, but creative and flexible solutions can be found.

Effects of Thermal Environment on Learning Skills

Vol 12, Num 02
Mar-Apr 1974, Pg. 4-6

Harner, David P.
Harner presents data indicating a connection between temperature and learning levels. Research shows that reading and math performance declines at temperatures over 74 degrees Fahrenheit. 68 to 74 degrees Fahrenhiet seems to be the ideal temperature for optimum learning. Harner provides tables summarizing previous research in this area. References included (19).

Year-Round Schools: A New Ball Game for Facility Planners

Vol 12, Num 03
May-Jun 1974, Pg. 4-8

Univer, Irving O.
Increased interest in implementing year-round school programs presents design challenges for educational facility planners. Mandatory extended-attendance plans will increse operational costs but will not significantly affect facility planning. However, mandatory staggard-attendance plans will affect both operating costs and facility planning. Univer discusses the impact of changed enrollment projections due to implementation of a year-round program on facility capacity. The financial implications of year-round operation are described, including personnel, utilities, supplies and maintenance costs. The design of a new school can affect the chosen attendance program—therefore, the decision of whether to build an open or self-contained school should be carefully considered. Year-round school programs offer an affordable option for coping with increasing enrollments and lack of educational space and resources.

Changing Architecture

Vol 12, Num 04
Jul-Aug 1974, Pg. 18-19

Morgan, Tom
Morgan cites these as important trends in the design of new educational facilities: flexibility; adaptability; reduction in fenestration; increased attempts to build the plant into the site; compactness; use of color; use of a variety of geometric shapes; carpeting; new construction materials. The author describes the above trends and concludes "Only insofar as school plants provide an acceptable learning environment are they acceptable as educational facilities."

Community Schools

Vol 12, Num 04
Jul-Aug 1974, Pg. 8-9

Ringers, Joe
Ringers describes the advantages of community use of school facilities. Community schools enable greater services to be provided to more people at one location. Services such as libraries, human resources, and recreation programs are very compatible with educational resources. Interagency programs will succeed with a high degree of communication and committment and a clear understanding of goals. Agencies can pool some of their resources into a single community activities budget to fund operations. Sharing facilities provides better resources for both schools and communities, and allows increased use of those resources. The educational facility planner can provide valuable guidance to the architect and the community in designing such community/school facilities.

Energy Conservation

Vol 12, Num 04
Jul-Aug 1974, Pg. 6-7

Platt, Frank K.
School design and operation must incoporate energy conserving practices. Building codes must be brought up to standards. Manufacturers must develop products that consume low amounts of energy. Operational controls must be improved, such as heating start-up controls. Preventative maintenance should be prioritized. Program options such as year-round schooling can decrease operation costs per student. Energy conservation policies in schools protect our natural resources and save money, and can be accomplished without disrupting the educational environment.

Enrollment Decline

Vol 12, Num 04
Jul-Aug 1974, Pg. 10-12

Brunetti, Frank
During the 1950's, educational facilities expanded to accomodate increased enrollments due to the baby boom. However, following the boom, decreasing births resulted in declining enrollments, catching some school districts by surprise. Brunetti provides indicators of declining enrollment to help districts predict future needs. Demographic data combined with enrollment knowledge concerning grade ratios can help districts prepare for future years. Land development information can also be very useful in predicting the size of future student populations. Educational facility planners can prepare for declining enrollments by developing a comprehensive plan which utilizes the relevant data. The effect of lower student enrollments on state funding should be considered in financial management decisions. Staff and

program reductions may also need to occur. Under-utilized facilities could be opened for partial community use. If closing a school is necessary, the decision of which school(s) to close should be based on facility evaluation data and attendance patterns.

Financing Facilities

Vol 12, Num 04
Jul-Aug 1974, Pg. 16-17

Wilkerson, Bill
This 1974 article highlights the two major forces affecting the financing of educational facilities. These forces are: (1) the nearly unprecedented rise in costs of construction, and (2) the search for equity of educational opportunity and tax burden. The most significant cases relating to facility financing are Serrano (California) and Rodriguez (Texas). The article notes that inequities in financing capital improvements may be even greater than in current operation.

Internationalization

Vol 12, Num 04
Jul-Aug 1974, Pg. 13

Bergin, Denis
Bergin, writing in Ireland, observes some of the United States and European countries in the approach to facility planning. For example, he cites a belief that in Europe schools tend "to play [a strong role] in preserving national and regional cultures." This contribution is only beginning to be accepted in this country. The author advocates a strong relationship between CEFP and Europe even to the possibility of a representative office in Brussels.

Services for Handicapped

Vol 12, Num 04
Jul-Aug 1974, Pg. 14-15

Molloy, Larry
In 1974 there were seven million children in the United States with permanent disabilities. Court decisions and legislation established the "least restrictive" environment concept and schools entered into a new requirement for the education of the disabled. Facility planners were faced with the need to provide facilities to serve many students previously left outside public education. To meet the new demands new types of facilities, such as, the Whitmer Human Resources Center in Pontiac, Michigan were created. That center combines special education, nursery school, community college extension, adult education, medical and dental clinics, welfare and emergency relief services, legal aid centers, citizen assistance, job training placement, recreation, performing arts, community facilities, a public restaurant, and barrier free streets for strolling and relaxing.

The Future

Vol 12, Num 04
Jul-Aug 1974, Pg. 20-22

Lefferts, Gillet, etal.
This article is an edited version of a final report by a sub-committee of the AIA Committee on Architecture for Education. The future presented is based on the concept of Growth Unit and a review of current trends in education. The Growth Unit is seen as "a sense of neighborhood" and a "sense of place". The author architects provide an interesting description of current trends in education that is relevant for the planning and design of school facilities.

1974 Update: Project Simu-School

Vol 12, Num 05
Sep-Oct 1974, Pg. 07-09

Hunt, Lester W.
Project Simu-School was conceived as a tool and process of educational planning. Those working within the project hoped to assist in establishing a sympathetic dialogue between school people and the public. The project had components in Chicago, Santa Clara County, Dallas, Ohio State, and CEFP. Although a national network to collect and analyze data was desired, the several components have tended to remain somewhat localized. Improved planning processes have evolved and documents have been published. Increased involvement of CEFP members is greatly needed.

Open Space Schools and the Non-Cognitive Domain

Vol 12, Num 05
Sep-Oct 1974, Pg. 04-06

Musemeche, Richard A. and Sam Adams
The article suggests that social and emotional factors in learning may be as important as achievement in subject matter areas. The article reports on learning in open-space schools using research methods based on experimental and controlled groups of students. A structured instrument developed for this research was administered to the teachers of 64 students in open-space schools and 144 in self-contained classrooms. Results at the .01 level of confidence concluded that the graduates of the open-space school operated at a higher level in the emotional realm than did their counterparts from the self-contained classroom.

An Introduction to Educational Facilities Planning In Israel

Vol 12, Num 06
Nov-Dec 1974, Pg. 08-10

Slijper, Yoseph and Rachel Liberman
Reviewed in this article is the development of education and school facilities in Israel during the 1950's, the 1960's and the 1970's. Compulsory attendance evolved from nine years (elementary) to a 6-3-3 requirement in 1969. The provision for education and school facilities during this period was greatly impacted by the need to integrate large numbers of children received from many European countries. It is interesting to note that in 1960 nearly 100% of children at the appropriate age were enrolled in kindergarten. Israel has placed much emphasis on the provision for Community Centers as part of the school facilities.

Criteria For Selecting School Furniture and Equipment For The Disabled

Vol 12, Num 06
Nov-Dec 1974, Pg. 04-07

Abend, Allen C.
Written as a position paper for Educational Facility Planners the article provides many practical design criteria for school furniture and equipment. The basic criteria were developed from observations and interviews with disabled persons and individuals experienced in working with environmental problems. Ten guidelines are given for areas, such as, furniture, railings, fixtures, signage, and equipment. Abend notes that the design ideas are "equally applicable for the average person."

More Time-Better Planning

Vol 13, Num 01
Jan-Feb 1975, Pg. 4-5

Williams, Douglas F.
While opportunities for new school construction today are limited, enrollments continue to increase. Facilities may be unable to accomodate changing needs and enrollments, requiring efforts to reshape and transform existing space. A planner's biggest resources in constructing or remodeling space are the people who will use the space. Educators, parents and community members can provide valuable input into the planning process.

Open Spaces...Closed Minds

Vol 13, Num 01
Jan-Feb 1975, Pg. 6-7

Arnold, John
Open space schools are being constructed at an amazing rate, and often with a lack of proper planning. Arnold attributes the popularity of the open school design to the conception that they are cheaper, attractive, and reflect philosophical trends in education. However, little is invested in teacher education on how to use the open school design in their lesson plans. Traditional teaching is best accomplished in a traditional design—the effective use of an open design requires a different teaching style. Many open space schools have design elements that do not reflect use patterns. Schools would be well advised to seek the help of an expert in the area of classroom arrangement and curriculum; such an individual could provide information and support to school teachers and administrators on how to effectively use their open space school.

New Environment for Achievement

Vol 13, Num 02
Mar-Apr 1975, Pg. 5-6

Zimmerman, Gary
The Children's Activity and Achievement Center (CAAC) in Milwaukee, Wisconsin serves children with disabilities, and provides training and support to parents. The facility provides a home-like atmosphere for users which reflects the school's educational program. An open space design with several "pods" provides the children with both learning and play areas. Accessibilty was a special concern when designing a school for this student population, though some potential barriers were also included for use in learning situations. This special facility encourages developmental learning in a non-institutional environment.

State Incentive to School Construction

Vol 13, Num 02
Mar-Apr 1975, Pg. 10-11

Meckley, Richard
A brief history of school construction financing in West Virginia is provided as a case study for other states. In 1972, a constitutional amendment was passed, establishing a partnership between the state and local communities in financing school construction. The partnership has resulted in a surge of school construction, financed through state, local and federal sources.

Education at Work in an Open Environment

Vol 13, Num 03
May-Jun 1975, Pg. 4-7

Gwynne, Susan
Mariemont High School in Cincinnati, Ohio is a case study of an open space school design that succeeds in enhancing the school's curriculum. The open design includes a pod for every academic unit, with teacher's office space in the center. Space between pods is flexible enough to facilitate interdisciplinary work. The design encourages discussion and independent learning. Teachers are involved in

curriculum development, and see their ideas implemented. Community involvement is encouraged through a volunteer program and community placement opportunities for students. Mariemont is an open space school that works!

Trends in Design and Construction of Educational Facilities

Vol 13, Num 03
May-Jun 1975, Pg. 8-9

Browne, Robert
This article lists information obtained from a 1975 survey of state Departments of Education in the U.S., revealing construction trends at that time. Results reveal a trend toward renovation more than new construction. Institutions providing new approaches to funding, programming and construction are listed. Comments on school construction trends are provided.

Design/Build/Bid: A Controversy

Vol 13, Num 04
Jul-Aug 1975, Pg. 4-5

Hill, John C.
The design-build-bid process alters the traditional role of the architect as primary planner, designer and supervisor of the building project, and gives the owner more control. The architect's role is that of a contractor that must bid on a project based on the educational specifications set by the school board. School boards planning construction should weigh the issues before deciding to use a traditional or design-build-bid approach.

Design/Build/Bid: Same Cast, New Script

Vol 13, Num 04
Jul-Aug 1975, Pg. 10-12

Baker, Richard E.
Baker describes the design/build process from the viewpoints of the owner, the contractor, and the architect. The design/build process has the advantage of quick completion of the building at a low cost, due mostly to the owner's participation in writing the preliminary specifications. However, the owner must be certain that s/he can fulfill this responsibility. A table listing the production steps and the responsible party is included.

Design/Build/Bid: What's Happening?

Vol 13, Num 04
Jul-Aug 1975, Pg. 6-8

Brockway, Lee
This article is a transcript of an interview with architect Lee Brockway on current use of the design/build bidding process. Brockway discusses the differences between design/build and traditional processes, and the advantages of design/build. The effect of design/build projects on the architect's role is discussed. Budget implications are also covered.

Space Management: The Variable Environment

Vol 13, Num 05
Sep-Oct 1975, Pg. 8-10

Tarapata, Peter and Jack M. Goldman
The authors discuss the benefits of space management techniques in an open space school. Open designs create a dynamic environment that can be changed to meet the individual needs of the students. Space managers are given increased responsibility for shaping the educational environment using furniture, partitions and moveable structures. The space manager can constantly create new and innovative spaces. Space management should involve staff training on how to utilize the open space, and the manager should work interactively with the users to create the most effective learning environment.

The Politics of School Site Selection

Vol 13, Num 05
Sep-Oct 1975, Pg. 4-6

Earthman, Glen I., and Judy Bailey
Site selection, especially in urban areas, is a very complex process that involves people at all levels of a community. The 15 largest school districts in the U.S. were surveyed about their school site selection processes. In most of the districts surveyed, the district had the primary role in choosing a school site, with minimal community involvement. Land was most frequently acquired through purchase, though some districts were given land by subdivision developers. All districts had to work with their local planning commission for final site approval. Community input was often included at this point. However, communities often resisted the selection, making the process more difficult. Interestingly, most districts surveyed do not have a master plan for selecting new building sites for the next six to ten years. Urban districts face increasing difficulty in the years to come in finding adequate land for school construction.

You Have to be Taught

Vol 13, Num 06
Nov-Dec 1975, Pg. 4-6

Gores, Harold B.
School facilities must adjust to the social changes of the city around them. Gores provides background on several major cities and how their schools have dealt with changing social and population trends. Expanding education to include diverse student populations, alternate scheduling, and lifelong learning are a benefit to students and the community. Schools must include areas large enough to allow movement

and group learning, yet not so open that one loses their sense of space. The central cities are the "social frontier of America," and we look to them to see the future.

Flexible Space: An Application that Parallels the Educational Experience

Vol 13, Num 06
Nov-Dec 1975, Pg. 7-10

Brooks, Kenneth
"Open space" has been relabeled "flexible space," referring to its ability to adapt to changing educational programs. Huston Associates applied the flexible space concept to an office building and made observations on its effectiveness. Staff's initial reluctance to accept the design subsided after using the facility. The design provided employees with an increased understanding of each other's jobs. The design was also found to facilitate communication and team work and increase office morale. Administrative control improved due to visual access. The flexible design was applied successfully to the office environment with many positive effects, and minimal disruption due to noise or distraction.

Keys to a Successful Building Program

Vol 14, Num 01
Jan-Feb 1976, Pg. 12-13

Davis, William E.
Using the South Kitsap School District of Washington as a case study, Davis presents the key factors to ensuring a successful school building project. The architect and the project planner make up the essential team for providing leadership in the planning process. Community members, educators, parents and students should also be represented on the planning team. A travel budget should be established to allow site visits. A clear educational plan should exist in advance of the design process. Funds should be allocated for staff training on how to effectively utilize the new facility. Long range master planning can save money through joint development and resource utilization.

Modular Design for Activity Spaces in the Physical Education—Intramural Complex

Vol 14, Num 01
Jan-Feb 1976, Pg. 7-10

Coates, Edward
Coates describes the recommended dimensions and layout of a basic module for a physical education complex. Such a module is large and flexible enough to accomodate a diverse range of activities. The advantages of combining modules to house different programs are also discussed. Floorplans are included.

What We Think and What We Do: A Report of Teacher Attitudes and Practices in Open Space and Traditional Space Facilities

Vol 14, Num 01
Jan-Feb 1976, Pg. 4-6

Morgan, Marylou J., Douglas F. Williams and Thomas E. Morgan
This research study surveyed teachers in three open-space secondary schools to assess their attitudes about the facility compared to conventional schools. Findings reveal positive reactions to traditional facilities and negative reactions to open facilities. Open facilities tended to be utilized more for small group work and individualized instructional practices than were traditional facilities. Multi-teacher projects were conducted more frequently in traditional facilities. The researchers speculate that a lack of a teacher training program on how to use the open space facilities may have contributed to their negative attitudes. Further study is needed to assess teacher attitudes when trained to use the open space facility.

Construction Management: Building Schools Faster in the International Marketplace

Vol 14, Num 02
Mar-Apr 1976, Pg. 8-10

Scarano, Joseph J.
Scarano makes comparisons between construction managed projects and traditionally built projects, based on CM Associates' Puerto Rican project. Construction management techniques were found to reduce costs and increase productivity and quality control. An overview of the project is provided.

School Construction in Developing Countries

Vol 14, Num 02
Mar-Apr 1976, Pg. 4-7

Dijkgraaf, Cor and L.M. Giertz
School design in developing countries cannot be a mere copy of designs in developed countries. Resource supply in developing countries affects the design and construction of their schools. Development—including the development of modern education—must grow out of the unique qualities and resources of the country, rather than from a central plan set by foreign nations.

Designing Environments for Effective Media Utilization

Vol 14, Num 03
May-Jun 1976, Pg. 7-12

McVey, G.F.
Human factors in designing media space are often overlooked, yet are crucial to effective media utilization.

McVey presents guidelines on facility planning for media use, including recommended room size, shape and height and acoustical considerations.

Educational Planning—The View from a Superintendent's Office

Vol 14, Num 03
May-Jun 1976, Pg. 4-5

Candoli, I.C.
Candoli reflects on the challenges of making educational facilty planning decisions. Planning decisions involve competing interests and political pressures. Effective planning is a comprehensive and continuous process.. Lansing School District recently reorganized to include a comprehensive planning department, linking facility issues with curricular and organizational planning. This addition has allowed the district to use their open school designs more effectively, with greater user satisfaction. The benefits of comprehensive planning show in the buildings, the staff and the students.

Architecture in the Schools

Vol 14, Num 04
Jul-Aug 1976, Pg. 4-6

Eriksen, Aase
"Built environment education" teaches children about constructed space and their surrounding environment. Active participation in the environment through observation and investigation is encouraged. Built environment education includes 1) awareness of the environment 2) an understanding of the impact of the environment, and 3) the ability to change the environment. Teachers should be trained how to experience the built environment with their students. Participation in the built environment encourages creative thinking and active learning.

New Schools Via a True Owner/Architect/ Contractor Team

Vol 14, Num 04
Jul-Aug 1976, Pg. 7-9

Bowser, John D.
The Alief I.S.D. in Houston, Texas pioneered a new construction process which combines design/build techniques with construction management practices. The Alief construction process utilizes the contractor as part of the design team, along with the architect and the owner. The contractor is selected from solicited construction management proposals. The design team then collects bids from subcontractors, enabling the contractor to submit a final proposal with the maximum cost included. The Alief construction process increases communication between the involved parties, and increases owner control over the process and the project cost.

School Site and a New Aerial Photogrammetric Technique

Vol 14, Num 04
Jul-Aug 1976, Pg. 10-12

Grube, Karl W. and Barbara E. Sanders
Aerial photogrammetric contour mapping techniques have planning and cost advantages over traditional land surveying techniques. Contour mapping techniques can provide a more complete representation of school property. The photogrammetric method can inform the site selection process and aid in school planning. Aerial mapping can even be integrated into the mathematical curriculum. School districts and planning agencies are recommended to support contour mapping technology.

Harris Hillman School — A "Special" Place

Vol 14, Num 05
Sep-Oct 1976, Pg. 4-6

Johnson, Ed Jordan
Johnson describes the special design considerations in creating the Harris Hillman School, an educational facility serving handicapped children. Accessibility was a primary concern—wide corridors and spacious classrooms without doors were some of the special features included. Outdoor learning gardens were provided to help the children develop their abilities in the exterior environment. Floorplans are included.

Teacher Attitudes and Practices in Open and Traditional Spaces: A Comparison

Vol 14, Num 05
Sep-Oct 1976, Pg. 7-9

Morgan, Marylou, Thomas E. Morgan , and Douglas F. Williams
Using a new instrument—the Instructional Space Attitude Inventory (ISAI—researchers assessed teacher attitudes and practices in both traditional and open space facilities. Teachers were found to prefer open space facilities at a statistically significant rate. Teachers revealed greater use of open facilities for multi-teacher activites, small group work, and indvidualized student practices. The researchers attribute the findings to the existance of a pre-service education program and ongoing staff development activities facilitating the transition to the open style facility design.

The St. Hilda's Redevelopment Project

Vol 14, Num 05
Sep-Oct 1976, Pg. 12-16

Prince, J.R.
St. Hilda's School for Girls in Western Austrailia required redevelopment of its existing buildings—half of the structures

were substandard, temporary classrooms, while the other half were located poorly due to a lack of master planning. A zoning scheme was created to ensure effective layout of the permanent buildings. The high school was planned with academic subjects grouped by facilities. A description of the design and construction is included, along with illustrative diagrams.

Community College of Denver, North Campus Denver, Colorado

Vol 14, Num 06
Nov-Dec 1976, Pg. 8-9

Anderson, John D.
Part of a special solar energy feature, this article profiles a new energy efficient community college in Denver. Energy shortages led to the formation of a special team to research energy alternatives such as solar energy. The college received a legislative grant to equip the college with a solar-assisted heat pump system. Implementation of this design reveals a commitment to energy conservation on behalf of the design team and the State of Colorado.

Energy Conservation Through Rational Architecture and Planning

Vol 14, Num 06
Nov-Dec 1976, Pg. 4-6,22

Brubaker, C. William
The sun is an under-utilized energy resource. Windowless, air conditioned schools were built when energy was inexpensive and readily available. Today, architects need to design schools that work with the natural environment and utilize solar energy. Building overhangs can be designed to permit winter sunlight, while blocking the higher summer light. Deciduous trees can act as a shade in the summer, while allowing light to pass through when bare in the winter. In addition to these "passive" methods, schools can be designed to actively collect solar energy for temperature control. Energy efficiency in our schools and towns can be increased though architectural design and efficient use of our buildings.

George A. Towns Elementary School, Atlanta, Georgia

Vol 14, Num 06
Nov-Dec 1976, Pg. 16-17

Burt, Ralph H.
Part of a special feature on solar energy, this article provide background on the George A. Towns Elementary School in Atlanta. This elementary school was chosen as the NSF experimental site of the largest solar installation in the world. Solar power accounts for 60 percent of the schools heating and cooling.

Niskey Lake Middle School, Atlanta, Georgia

Vol 14, Num 06
Nov-Dec 1976, Pg. 13-15

Stevens, Preston Jr.
Part of a special feature on solar energy, this article profiles the Niskey Lake Middle School in Atlanta. This school was designed with increased insulation and solar heating and cooling systems. Description and diagrams of the solar mechanical system are included.

Parker Junior High School, Denver, Colorado

Vol 14, Num 06
Nov-Dec 1976, Pg. 10-11

More, Donald H.
Part of a special feature on solar energy, this article describes the solar collector system installed at Parker Junior High School. The solar system's initial cost was much higher than an electric system—however anticipated life cycle costs for the solar system are much lower.

Selecting the Equipment

Vol 14, Num 06
Nov-Dec 1976, Pg. 18-19

Tragert, William E. and Jonathon White
Part of a special feature on solar energy, this article provides information on different types of solar equipment, such as flat plate collectors, parabolic collectors, and tubular concentrators. The advantages and limitations of each type of equipment are discussed.

School Supplies and Equipment, 1976

Vol 15, Num 01
Jan-Feb 1977, Pg. 6-12

Thieblot, Armand J. Jr.
This report uses demographic trend data to make predictions on demand for school equipment and supplies. Demographic data indicate a continued decrease in school enrollments until about 1983. School construction rates will continue to decrease, while construction costs increase. Designing schools for flexibility is the current trend—schools want more structure than the open designs, without going back to the "egg crate." Inflation may affect production of needed school materials and supplies.

The Fuel Schools Use

Vol 15, Num 01
Jan-Feb 1977, Pg. 4-5

Federal Energy Administration
This report presents results from a national survey of public

schools assessing energy consumption and costs. Findings reveal that U.S. public schools spent $514 million more on energy costs in 1974-75 than in 1972-73. Tables listing average energy consumption and cost per student, nationally and by region, are included.

What the Community Wants

Vol 15, Num 01
Jan-Feb 1977, Pg. 13-16

Glass, Thomas
The Community Educational Program Priority Survey was developed to assess community attitudes about educational programs in their school districts. The survey can be used as a vehicle for community input in the planning process. A goal-building committee can oversee the survey process and help interpret the results. Several successful case studies are provided.

Alternatives to Higher Education

Vol 15, Num 02
Mar-Apr 1977, Pg. 8-9,18

Lefferts, Gillet Jr.
Lefferts explores alternative higher education programs, and discusses their implications on future facility planning efforts. New audio-visual technology allows off-campus opportunities for part-time or non-traditional students. Mobile classrooms and community education provide other options. The facility planning considerations are discussed.

Economy, Efficiency, and Equality: The Myths of Rural School District Consolidation

Vol 15, Num 02
Mar-Apr 1977, Pg. 4-7,13-14

Sher, Jonathan P. and Rachel B. Tompkins
This summary of the National Institute of Education report by the same title presents research related to the consolidation of rural schools and districts. Public attitudes regarding the creation of larger rural schools are generally positive, viewing such developments as a symbol of American modernization. Yet, research findings do not necessarily support the concept that bigger is always better. The supposed cost benefits of consolidation are limited, and are often offset by increased student transportation costs. In summary, empirical research does not justify the consolidation trend. The implications of these findings to educational policy are discussed.

Education and Business: Moving Toward Better Understanding

Vol 15, Num 02
Mar-Apr 1977, Pg. 12-13

Smith, Frank
Smith asserts that educational programs should partner with businesses to teach students the benefits of free enterprise, and ensure the continued economic development of America.

Noise Pollution and Schools: How Much is Too Much?

Vol 15, Num 02
Mar-Apr 1977, Pg. 10-11

Kyzar, Barney L.
Kyzar presents a case study revealing the effect of noise pollution on learning in one school building. Special instruments were used to measure noise levels and verbal interaction patterns. Noise levels were found to be inversely related to verbal interaction in classrooms. In addition, teachers in noisy classrooms were forced to change their teaching practices, and reported increased discipline problems. Overall, high noise levels had an adverse effect on both teachers' ability to teach, and students' ability to learn.

Architects-In-Schools—The First Year

Vol 15, Num 03
May-Jun 1977, Pg. 4-5,16

Eriksen, Aase
Part of the NEA Artists-In-Schools Program, three architects report their experiences working with teachers and students in twenty states to learn about ways they can use and change the "built environment." Communication and hands-on activities allowed students to experience their natural and built environments new ways.

Some Sound Advice or A Short Course in School Acoustics

Vol 15, Num 03
May-Jun 1977, Pg. 12-14

McCandless, David
McCandless categorizes most acoustical problems in educational buildings as either a room acoustics or noise control problem. Diagrams are provided to illustrate the distinct criteria for each acoustical category. The acoustical environment of a space is affected by many factors, including the room shape, finishes and furnishings, and the quality of useful sound in the room. Noise control is influenced by the condition of air-borne, duct-borne, and structure-borne noise paths. Knowledge of acoustical factors can help educational facility planners design and renovate better classrooms.

Stopping School Property Damage

Vol 15, Num 03
May-Jun 1977, Pg. 6-11,18-21

Zeisel, John
This article summarizes the findings of the "Stopping School Property Damage" study, published by EFL and AASA in 1976. The study explores the implications of vandalism on school design. School design professionals can create facilites that discourage vandalism while still meeting the educational and social needs of the facility users. Administrative programs to reduce vandalism are categorized into three types: behavior, motivation, and dialogue programs. A literature review on the types and causes of vandalism informs Zeisel's discussion on the preventative options of facility planners. An extensive annotated bibliography is included.

Modernization: Everybody's Doing It

Vol 15, Num 04
Jul-Aug 1977, Pg. 4-5,7

Graves, Ben E.
Graves provides background on school modernization efforts in school districts and in institutions of higher education. Changing social conditions such as declining student enrollment, increasing citizen involvement in school planning, and the energy crisis caused architects to take a second look at the modernization market. Modernization of older buildings should occur as part of a long-range, comprehensive plan, not in a piece-meal fashion. Involving the users in the remodeling process will result in a more effective use of space.

Preliminary Energy Audits for Existing Buildings

Vol 15, Num 04
Jul-Aug 1977, Pg. 10-13

Sullivan, Dallas
This article describes the energy auditing procedure developed by the Ohio Department of Energy and Ohio State University. Preliminary instruments are included.

School Calendar and Energy Costs

Vol 15, Num 04
Jul-Aug 1977, Pg. 6-7

Brooks, Kenneth and Bruce Huston
The energy crisis has presented a challenge to school districts. Changing the school calendar by one to three months to reduce heating/cooling costs presents one possible solution. Perry Local Schools in Perry, Ohio utilized such a method. This case study revealed that a calendar change only resulted in a little over $400 in savings per year, with an initial equipment expenditure of $150,000. This case study indicates that a careful review is needed before calendar changes are adopted.

Violence in Schools

Vol 15, Num 04
Jul-Aug 1977, Pg. 8-9

Bachman, Barbara
Incidences of violence and vandalism in schools are increasing at an alarming rate. While some schools have attempted to cope with the problem through defensive measures, such as alarm systems and security personnel, other schools have implemented behavioral programs designed to target the causes of aggression. The relationship between student agression and the school environment must be examined further to aid in our understanding of the causes of violent behavior.

Energy Design for New Buildings

Vol 15, Num 05
Sep-Oct 1977, Pg. 10-12

Cross, Jim
Energy availability has always affected building design. Increased availability of energy led to the design of buildings less dependent upon their natural environment, and more dependent on fossil fuels. Currently, the energy shortage demands that our older buildings respond to new conservation needs. While we cannot simply rebuild all existing facilities to incorporate alternative energy usage, we can change our use of existing facilities and the design of future buildings. Factors such as building site and orientation and proper design of the building shell can reduce energy consumption rates due to heating, cooling, ventilation and lighting. Proper design, maintenace and operation of the mechanical and electrical systems can also reduce consumption.

Facility Challenges in Retrospect and Prospect

Vol 15, Num 05
Sep-Oct 1977, Pg. 4-9

Bulat, Donald C.
Bulat presents the Duval County School District as a case study of a district that has successfully faced the social challenges of public education while still growing in a positive direction. In 1964, all high schools in Duval County lost their accreditation due to "deplorable" school facilities and lack of funds. The seven year road to re-acreditation is described, along with later challenges, such as desegregation and enrollment changes. Bulat suggests a new role for the educational facility planner—one that responds more to special educational needs and provides leadership in the renewal of community confidence in public education.

A Formula for Determining the Instructional Cost per Full-Time Student Equivalent (FTE) of 15 Semesters Each and the Total Educational Cost per FTE for Public Community Colleges

Vol 15, Num 06
Nov-Dec 1977, Pg. 8,19

Covert, C.C.
The author uses salary, supplies costs, and student/teacher ratio data to determine the instructional cost per community college student. Examples are provided.

Selling Energy Design to the Client

Vol 15, Num 06
Nov-Dec 1977, Pg. 14-17,20

Kays, Von
Kays describes the new responsibilities that the energy crisis has placed on architects and facility planners. Professionals should 1)develop an energy philosophy 2) express their committment to that philosophy to the client during the interviewing process 3) formalize their energy policy in the contract, and 4) implent that program during the programming and design phases. The architect or planner can serve as a leader in priortizing energy conservating elements during the planning and design of school facilities.

The Imperatives of Decline

Vol 15, Num 06
Nov-Dec 1977, Pg. 4-13

Pino, Ed, Kenneth Boulding, Bob Bundy, Stanton Leggett, Ben Graves, Jeffrey Conroy, Donald Leu, Doyle E. Winter, and Bruce Jensen
This article summarizes several presentations delivered at CEFPI's 54th International Conference concerning the effect of changing cultural conditions on educational facility planning. Topics covered include the planning, curriculum, architecture, governance and financial implications of the socio-cultural challenges currently faced by education.

School Buildings: Ambassadors of Goodwill

Vol 16, Num 01
Jan-Feb 1978, Pg. 10-13

Hawkins, Harold and William B. Stack
This article describes the role of school buildings in maintaining positive educational public relations with the surrounding community. A school facility appraisal can serve as a valuable PR tool, helping districts to gain community support for the maintenance and improvement of their school buildings.

The Impact of School Building Age on School Achievement in Georgia

Vol 16, Num 01
Jan-Feb 1978, Pg. 6-9

McGuffey, Carroll W. and Carvin L. Brown
Research was conducted on Georgia school districts to determine the relationship between school building age and student learning, controlling for the effect of socio-economic variables. Building age was found to effect student test scores, although the effect differed by student grade and by subject area. The article includes a literature review on the effect of facilities on learning and references.

The Young Planner: Elementary School Children and the Planning Process

Vol 16, Num 01
Jan-Feb 1978, Pg. 4-5

Stenzler, Yale
Children, as educational facility users, are a valuable resource when developing educational specifications. The planning committee can involve children in the planning process by talking to them, asking them to illustrate their ideas through art, and observing how they manipulate their environment. A case study of a successful planning project involving student input is presented.

Architect Melds Present and Future Needs in Design of Flexible Vocational Training Center

Vol 16, Num 02
Mar-Apr 1978, Pg. 8-11

Poppink, Jerry
This article describes the design of a new vocational Business Education Center in Southern California. The planning incorporated feedback from special "trade advisories" designed to assess the future needs of the business community. The facility simulates a modern business environment, with "model" offices and a high degree of space flexibility. Floorplans are included.

Form and Function of Modern Educational Facilities

Vol 16, Num 02
Mar-Apr 1978, Pg. 4-6

Lilley, H. Edward
Lilley asserts that while the structural appearance and space of school buildings has improved over the years, the quality of instructional space has been neglected. The interior of school buildings must develop at the same rate as the exterior building. Architects must design classrooms equipped to meet educational needs.

Specifications for School Facility Key Controlled Security

Vol 16, Num 02
Mar-Apr 1978, Pg. 12-13

Stembridge, Roger E.
An effective school security system must be incorporated into the educational specifications and communicated to the project architect. An outline of how to develop educational specifications for a "Key Controlled Security System" is provided, including considerations for setting up such a system, and security control requirements.

Design for Daycare—An Architecture of its Own

Vol 16, Num 03
May-Jun 1978, Pg. 4-9

Passantino, Richard J.
Daycare facilities must be designed with their unique population in mind, not simply as scaled down kindergarten classrooms. Two daycare facility designs are presented as case studies. These facilities were designed to encourage learning through sensory experience. The exterior environment incorporated nature with play and learning in easily supervised areas. Floorplans are included.

Energy Extra: Lighting

Vol 16, Num 03
May-Jun 1978, Pg. 14-18

U.S. Department of Education
Reprinted from the US Department of Education, this report serves as a guide for selecting and operating energy-efficient lighting. Different lighting sources are discussed, along with their efficiency, aesthetics, and color rendition.

Research Review: The Effect of Windowless Rooms and Unembellished Surroundings on Attitude and Retention

Vol 16, Num 03
May-Jun 1978, Pg. 12

Brooks, Kenneth
This article briefly summarizes Jerome Gognoli's 1973 study on the effect of the external environment on attitudes and retention rates in college students. Gognoli found that the availability of windows in classrooms did indeed affect student retention rates, though the effect varied by comfort level. The author concludes that further research is needed to analyze the many variables associated with how people learn.

The Rise and Fall of Open Space for Instruction

Vol 16, Num 03
May-Jun 1978, Pg. 11,19

Kyzar, Barney L.
Kyzar provides a brief history of the open space design movement and speculates on the cause of its decline. Districts that utilized open space designs often failed to develop programs suited for their new environment. Furthermore, teachers were not trained how to use the open space in their lessons. New space demands new programs. Planning prior to construction is needed to ensure that the proposed school design meets the intended educational program.

A Systematic Approach to Energy Conservation

Vol 16, Num 04
Jul-Aug 1978, Pg. 7-8

Ingalls, R.J.
Ingalls describes the Houston Independent School District's experience with creating and implementing an energy conservation program. The district divided the program into four phases: the first phase involved conservation methods that could be implemented at no additional cost; the second phase included projects requiring an increased budget; the third phase contained projects needing federal funding; and the final phase included wish list items. The program will interface with the energy audit, and be properly monitored over time.

Acquiring Professional Services for Energy Management

Vol 16, Num 04
Jul-Aug 1978, Pg. 15-16

Fuller, Robert H.
Finding an energy management consultant can be a difficult task for school officials unfamiliar with the field. Fuller describes the preferred attributes of an energy management consultant, as well as the six step selection procedure. An overview of the contracting process is also provided.

Energy Extra: Effectiveness of Fuel Oil Additives for Increasing Boiler Efficiency

Vol 16, Num 04
Jul-Aug 1978, Pg. 20-23

NTIS
A reprint of the 1977 NTIS report, this article presents research findings on the effect of fuel oil additives on boiler efficiency. The factors affecting boiler efficiency are discussed, along with the role of additives in increasing efficiency. Use of additives resulted in improved combustion by reducing emissions and allowing operation at lower excess air. The significance of the findings are discussed.

Energy Management and Energy Audits for Schools

Vol 16, Num 04
Jul-Aug 1978, Pg. 4-5,19

Dorgan, Charles E.
Implementation of an energy management program enables schools to reduce their energy consumption and costs, while still meeting their energy needs. An effective program begins with an energy audit and the experience of a qualified engineer or architect. The participation of all school members will help ensure that the energy program objectives are reached.

Implementing Audit Recommendations

Vol 16, Num 04
Jul-Aug 1978, Pg. 18-19

Williamson, Tom
Parkway School District in St. Louis, Missouri, successfully implemented their energy audit recommendations into an effective energy conservation program. Using Parkway SD as a case study, Williamson provides recommendations to school districts seeking to organize energy programs. From the selection of an energy consultant, to the implementation of energy-saving maintenance and operation techniques, Williamson provides school districts with valuable tips on reducing their energy consumption.

Research Review: Day Lighting as a Factor in Optimizing the Energy Performance of Buildings

Vol 16, Num 04
Jul-Aug 1978, Pg. 14

Brooks, Kenneth
In this abstract of an article by Francisco Arumi, the use of natural light to improve energy efficiency is discussed. Arumi's research shows that proper window placement can reduce energy consumption by up to 50 percent.

Research Review: The Optimization of Building Shape to Conserve Energy

Vol 16, Num 04
Jul-Aug 1978, Pg. 14

Brooks, Kenneth
In this brief abstract of a 1974 article by J.K. Page, design methods for reducing thermal conduction energy losses are discussed.

Community Education: A Concept Come of Age

Vol 16, Num 05
Sep-Oct 1978, Pg. 6-7

Kliminski, George and Sherry Mullett
Community education effectively links a school to its surrounding population and institutions, making the school building the center of communication. The partnerships formed under community education allow people and institutions to work together to identify community problems and solutions. A school building is a natural location for the delivery of community services.

Community Education—A National Perspective

Vol 16, Num 05
Sep-Oct 1978, Pg. 4-5

Tremper, Paul
Tremper speculates on the causes of the growth of community education. Declining enrollments necesitated additional outreach efforts to involve community members in school activities. The concept of lifelong learning accompanied a general increase in the amount of leisure time available. A growing awareness of the roles of community agencies revealed that many activies were duplicated due to lack of coordination and communication. These social developments led to increased interest in the concept of community education.

Energy Extra—Energy Planning: The Community Must Take Charge

Vol 16, Num 05
Sep-Oct 1978, Pg. 27-29

Allen, Malcolm
The energy shortage must be addressed on a community level. Communities should develop master plans for energy conservation and alternative fuel use. Community facility design efforts can be coordinated according to conservation efforts.

Interagency Projects—A Challenge for Planners (But Well Worth the Effort)

Vol 16, Num 05
Sep-Oct 1978, Pg. 8-9

Ringers, Joseph
Interagency programs reduce both government and school overhead costs through the sharing of resources. Community centers are the result of interagency partnerships encouraging creative solutions to community problems. Interagency work should begin slowly with small projects, allowing the partnerships to develop cooperatively rather than coercively. Interagency use of the same facility should be coordinated to allow separate space for different agencies, while still maintaining interagency accessibility.

Nathan Hale Community School, Toledo, Ohio: A Study in Grassroots Community Planning

Vol 16, Num 05
Sep-Oct 1978, Pg. 25-27

Kay, Bettye Ruth and Michael Kay
Nathan Hale Community School in Ohio is a case study in grassroots school planning. Years of neglect and overcrowding inspired parents to organize around school improvement efforts. The process of transforming Nathan Hale into a community school is described.

Research Review: The Development of a Postoccupancy Evaluation Design for Educational Facilities

Vol 16, Num 05
Sep-Oct 1978, Pg. 30-31

Keck, Daniel
Keck provides background on the research conducted to develop a post-occupancy facility evaluation instrument. The instrument assesses facility aspects such as adequacy, accessibility, safety and flexibility. A sample is provided.

Re-Use as an Option

Vol 16, Num 05
Sep-Oct 1978, Pg. 20-21

Green, Alan C. and Ellen Bussard
Community needs should inform the decision of whether to convert a surplus school building into a community center. Needs assessments and demographic data can help determine whether the need for community education exists. The degree of cooperation between public agencies should be evaluated prior to starting a community education project. Criteria is provided on how to determine whether a facility is appropriate for a community center use.

School and Community: A New Partnership for Wayne-Westland

Vol 16, Num 05
Sep-Oct 1978, Pg. 22-24

Dyer, Timothy
Dyer provides an overview of the planning and design of the Wayne-Westland Educational Social Service Center in Michigan. The center encourages lifelong learning through the establishment of community partnerships. The Center includes a vocational-technical unit, a senior citizen drop-in center, a preschool, an orthopedic swimming pool, and a respite care facilty. The financially self-sufficient center was constructed from of a combination of local, state and federal funds.

The Changing Planning Process for Planning Future Forms of "Community" Education

Vol 16, Num 05
Sep-Oct 1978, Pg. 11-14,18

Leu, Donald
Educational facilities must be designed to meet changing socio-cultural developments, such as the need for community education. A pre-planning session can ensure that the planning and design process will reflect these trends. Special efforts, such as involving community members in planning, creating timelines, and conducting needs assessments, will encourage community participation and facility use.

Changing Building Forms for Community Colleges

Vol 16, Num 06
Nov-Dec 1978, Pg. 4-6

Brubaker, C. William
Brubaker provides an overview of changing trends in community college design. Design efforts are moving out of the "high-school-look-era" to buildings more like liberal arts higher education institutions. Case studies are provided to illustrate the direction of these design trends. Diagrams are included.

Energy Extra: Thermal Energy Storage

Vol 16, Num 06
Nov-Dec 1978, Pg. 16-17

Denning, Carsie K.
Denning discusses thermal energy storage use as a method of energy management in school buildings. This method reduces energy costs through lower instantaneous demand, smaller capacity equipment, and off-peak usage.

Research Review: A Study of the Relationship of Size of High Schools and Student Perceptions of Five Variables

Vol 16, Num 06
Nov-Dec 1978, Pg. 9

Brooks, Kenneth
This abstract of a study by Gill Rideout describes research conducted on the relationship of school size to 1) school climate 2)student alienation 3) teacher-student relationships 4)student deviant behavior 5) extracurricular activities. A random sampling of urban, suburban and rural high schools were assessed. Findings revealed school size to have a significant effect on each of the variables.

Research Review: Review of the Psychological Reaction to Windows

Vol 16, Num 06
Nov-Dec 1978, Pg. 9-10

Brooks, Kenneth
This abstract of a 1976 study by Belinda Collins describes her findings on the psychological effect of classroom windows on students. Collins' findings do not indicate a significant relationship between the presence of windows and student performance.

Ten Years of Open Space: An Evaluation

Vol 16, Num 06
Nov-Dec 1978, Pg. 12-16

Duperre, Maurice R.
This article provides an evaluation of the open space design trend in community college institutions. Using case studies as an organizing framework, the author discusses different building designs and the reactions of student users. Survey data indicates student satisfaction with open space community college facilities.

The Gym the Jocks Built

Vol 16, Num 06
Nov-Dec 1978, Pg. 10-11,19

Morgan, Marylou J.
This article provides background on the transition of varsity athletics to dual athletics/physical education programs with different facility needs. Program factors such as the number of students involved, the need for spectator seating, and the variety of activities conducted will affect the design needs. Proper acoustics and climate control are also important considerations. Gymnasiums should be designed to accommodate co-existing programs and cooperative use of space.

504 Isn't That Bad!!

Vol 17, Num 01
Jan-Feb 1979, Pg. 09-10

Bisel, Paul
A discussion of how the Weld County School District #6 in Greeley, Colorado undertook a process to comply with the accessibility requirements of Section 504 of the Rehabilitation Act. Outlined is the step by step process starting with the establishment of special advisory commitees, and analysis of Section 504. Initially the programs were relocated as required to be accessible. This was followed by a survey of all existing facilities and recommendations as to which selected facilities would be renovated to comply with Section 504. After board approval working drawings, tendering and construction was carried out.

Barrier Free Design: A Report on the State of the Art

Vol 17, Num 01
Jan-Feb 1979, Pg. 04-06

Brokaw, John C.
A brief reference to the 1968 Architectural Barriers Act and a discussion of Section 504 of the 1973 Rehabilitation Act (effective June, 1977) and its application to educational facilities. Also covered is the establishment of standards for architectural accessibility adopted by the "American National Standards Specifications For Making Buildings and Facilities Accessible To, and Usable by, the Physically Handicapped" published by the American National Standards Institute Inc, ANSI A117.1-1961(R-1971). Included is a listing of design recommendations and a listing of reference publications.

Energy Extra: Designing for Energy Conservation

Vol 17, Num 01
Jan-Feb 1979, Pg. 13-16

Estes, R.C.
A case study of four energy conserving projects undertaken by the Alief Independent School District in Houston, Texas. Involved were two elementary schools, a school bus transportation center and a natatorium. The design integration of energy efficient lighting methods, wind generation, solar collection and passive energy conservation design are discussed. Energy consumption and costs are compared between traditional designs and energy conserving facilities.

From a Utopian Environment... To Where?

Vol 17, Num 01
Jan-Feb 1979, Pg. 17-18

Scharf, Tedde
A discussion of the issues of accessibility and equal opportunity for participation in all programs at postsecondary educational institutions, with the University of Northern Colorado in Greeley used as an example. Participation in activities and functions and provision of specific services and resources for the disabled. Also discussed is the relationship to existing policies and the anticipated results.

Is Anybody Concerned About the Qualifications of the Handicapped... or Only the Inabilities?

Vol 17, Num 01
Jan-Feb 1979, Pg. 11-12

Scharf, Daniel M.
The integration of the handicapped into vocational educational programs is discussed with reference to the evaluation of what tasks are needed and what type of equipment is available, and what modifications may be required to

instructional methods. Physical accessibility and safety within facilities must be recognized and discussed with those effected. Common beliefs and attitudes towards the abilities of the handicapped are discussed.

The Human Ecology of School Crime: A Case For Small Schools

Vol 17, Num 01
Jan-Feb 1979, Pg. 08

Garbarino, James
Abstract dealing with the negative social effects on students and staff of large schools as compared to smaller schools.

Combined Active and Passive Solar Space Heating and Solar Hot Water Systems for an Elementary School in Boise, Idaho

Vol 17, Num 02
Mar-Apr 1979, Pg. 16-27

Smull, Neil H., and Gerald L. Armstrong
Presentation of the earth covered, solar integrated Amity Elementary School in Boise, Idaho. Design features of the school are described along with the energy conservation methods. Solar water and space heating and the operation of the HVAC and solar systems.

Considerations for Policy Decisions Affecting Allocation of State Capital Outlay Funds

Vol 17, Num 02
Mar-Apr 1979, Pg. 04-07

Brown, Carvin L.
Considerations are identified that should act as a guide for policy decisions for the allocation of state funding for capital improvements. Addressed is the growing possibility of the state systems of financial capital outlay being vulnerable to a successful legal challenge.

Equalization, The Courts and Capital Expenditures

Vol 17, Num 02
Mar-Apr 1979, Pg. 25-26

Hale, James D.
Presentation of court rulings in regard to various states requirements to provide funding for capital expenditures. Discussed are the different funding methods between various states and the issue of local initiative beyond the states minimum standards.

Legal Aspects of Federal Funding of School Construction

Vol 17, Num 02
Mar-Apr 1979, Pg. 21-24

Gregg, Robert E., and Richard F. Meckley
Discussed are federal funding programs which are available for school construction application procedures and an approach to funds from various federal acts are presented. A number of considerations or conditions that must be addressed when receiving federal funding are identified.

School District Bond Issues: Implications for Reform in Financing Capital Outlay

Vol 17, Num 02
Mar-Apr 1979, Pg. 09-10

Hack, Walter G.
Abstract of research by Hack in regard to bond issues based on school districts in Ohio that held bond issues in 1974 and 1975. Addressed are three main issues: 1) The nature and magnitude of the school districts request, 2) Distinguishing characteristics between winners and losers and 3) Implications of the analysis on formulating legislation providing equity in financing capital outlay among school districts.

State Capital Outlay Funding in Florida

Vol 17, Num 02
Mar-Apr 1979, Pg. 08-09

Chick, Charles E.
Presented are two constitutionally guaranteed sources of revenue to fund capital outlay needs of Florida's state system of public education; 1) Motor vehicle license fees and 2) Gross receipts tax. Also discussed is advance funding, incentives for joint use of facilities and matching funding for community educational facilities.

Study to Ascertain Variables Relevant to Facility Needs Determination

Vol 17, Num 02
Mar-Apr 1979, Pg. 10-11

Brooks, Kenneth
Abstract in regard to research for the development of an equalization of financial support to capital outlay in the state of Kentucky. Research was undertaken with an attempt to develop a statistical model of a capital outlay program rather than a traditional process of a needs survey. Findings and conclusions are presented.

The Maryland Public School Construction Program

Vol 17, Num 02
Mar-Apr 1979, Pg. 11-16

Stenzler, Yale
Presentation of Maryland's program of full state funding of local school construction. The history of the program is described along with the organization for management of the program, and the procedures followed in managing the program. Accomplishments of the program are outlined along with recommendations for other states.

Demographic Trends: The Implications and Costs for Public Education

Vol 17, Num 03
May-Jun 1979, Pg. 04-11

Eisenberger, Katherine E.
A discussion of the current demographic trends and their effect on public education indentifying the "hidden" costs that will come with such change. Issues such as enrollment decline; birth, death and fertility rates; and changes in the family/woman at work are discussed with repect to education and educational facilities.

Energy Savings vs. Comfort — and the Effect of Humidity

Vol 17, Num 03
May-Jun 1979, Pg. 12-13

Bender, Dale O.
Energy conservation is addressed through lower thermostat settings and increased humidity levels to maintain personal comfort of the occupants. Several examples are briefly outlined in terms of potential energy savings. Humidity levels are discussed as to their effect on air infiltration, performance of building materials, office equipment operation and static electricity.

Establishing Competencies and Learning Experiences for Programs Preparing School Administrators for Facility Planning Responsibilities in the State of Washington

Vol 17, Num 03
May-Jun 1979, Pg. 22-23

Armenia, John William
Research undertaken to provide information to assist in developing performance-based administrator certification programs as required by the state guidelines and standards in the state of Washington. A description of the survey, major findings and recommendations are presented.

Preparing Planners for Today — A Proposed Seminar on Declining Enrollments

Vol 17, Num 03
May-Jun 1979, Pg. 06-08

Steele, Marilyn
Presentation of a proposed seminar to address enrollment decline in schools and how to make use of surplus community space. A discussion of the seminar format is included along with a nine module outline covering the seminar material. A seminar evaluation format and an outline for a comprehensive plan for surplus community space is included.

Rediscover the Future

Vol 17, Num 03
May-Jun 1979, Pg. 18-23

Fleischman, Richard
A discussion of the need of educational facilities to be 'flexible' in both the usage of space and in teaching methods. Community input in planning and usage of facilities to develope a true multi-use facility serving the total community is addresses. The concept of a village square/town is used as an example of the spacial arrangement of functions.

Under Used School Buildings: Why Can't Everyone Get Into the Act?

Vol 17, Num 03
May-Jun 1979, Pg. 08-11

Lewis, David
A planning process is presented for involving the public in decision making and planning the future use of under-used schools due to declining enrollment. The process is similar to ones used for involving the community in the planning of new schools. Outlined is a four phase process involving the establishment of a steering committe, public forums, workshops, presentation of alternatives, and the selection and implementation of the preferred design.

Whites Creek Comprehensive High School — A New Concept in Flexibility

Vol 17, Num 03
May-Jun 1979, Pg. 13-16

Wise, Bill, and Earl S. Swensson
Presentation of the Whites Creek comprehensive high school in metropolitan Nashville-Davidson county Public School District being planned as a "flexible" facility. Examples are cited from the design to address the major goals of the planning which were: to be able to accommofate a community of users from "birth to death"; ability to accomodate the breadth and depth of changing educational programs; and the ability to accomodate a changing

economic climate. Energy conservation and future re-use of the facility are also discussed.

Construction Management — An Application

Vol 17, Num 04
Jul-Aug 1979, Pg. 06-10

Culver, Harold W., and Richard Belyea
Presentation of the San Diego Unified School District's planning and development of a proto-typical school, along with the management steps, and benefits to the district. Outlined are the development concepts accepted by the district and the description of the districts usage and experience with construction management on various projects.

Energy Efficiency in School Renovation — Hand Middle School Shows How

Vol 17, Num 04
Jul-Aug 1979, Pg. 11-14

Trelease, Stephen
A case study of the renovation of Hand Middle School in Columbia, S.C. Emphasis of the presentation is on the energy conservation measures and modifications included in the renovation to reduce energy consumption. Discussed are exterior wall insulations, solar water heaters and HVAC systems and controls.

New Facility Challenges = New Creative Solutions

Vol 17, Num 04
Jul-Aug 1979, Pg. 15-21

Porter, Kal
Identification of the major factors in the rapidly changing areas of education, architecture, and government and the impact they have on new facility planning and construction and renovations. Such issues as cost savings, response to new agency regulations, response to desirable improvements and use of available space are discussed. Numerous options are presented to deal with these new impacts on facilities.

Participatory Design in Grand Rapids: Second Generation Planning

Vol 17, Num 04
Jul-Aug 1979, Pg. 18-22

AASE Eriksen
Presentation of the Central Park Project in Grand Rapids, Michigan and the planning process undertaken in planning the school and community centre. Involvement in the processes included students, staff, school representatives, civic representatives and community members. Benefits to the school and community are described.

Utilization of Surplus School Buildings

Vol 17, Num 04
Jul-Aug 1979, Pg. 10-11

Savitt, Robert F.
Abstract of an article by Savitt discusing the problem of surplus school buildings caused by declining enrollments. The advantages and disadvantages of five options are discussed. The five alternatives addressed are: 1. alternative education programs, 2. lease the facility, 3. sell the facility, 4. mothball the facility, 5. public input for future use.

Why Construction Management?

Vol 17, Num 04
Jul-Aug 1979, Pg. 04-11

Powell, Marvin
Presented is a description of the three basic types of construction management firms, 1. General contractors, 2. Management services consultants, 3. Architects and Engineers. Outlined are the qualifications of a construction management firm along with 'basic' and 'additional' services, and the benefits of construction management.

Aesthetic Factors in School Vandalism

Vol 17, Num 05
Sep-Oct 1979, Pg. 18-19

Allen, Vernor, and David Greenberger
Abstract of research by Allen and Greenberger on vandalism and the efects of the aesthetic value of the distructive process. Described is the research method, theories of the reasons of vandalism and suggested deterents to vandalism.

Eminent Domain: The Educational Planning Tool of Last Resort

Vol 17, Num 05
Sep-Oct 1979, Pg. 04-06

Francis, Robert A.
Description of the power of eminent domain at its relationship in the process of school boards acquiring private lands for public use. Outlined is the origin of the power of eminent domain, authority of Boards of Education in E.D., and issues such as: taking of property for public use, just compensation and due process.

Energy Management Bulletin: Microprocessors for Physical Plant Control Systems

Vol 17, Num 05
Sep-Oct 1979, Pg. 11-12

Palmer, H. Stanley, Lyle Gamet, David Lombardi, and Don Read
Presentation of the use of microprocessors with control devices in managing buildings HVAC systems. Described are the functions and operations of the microprocessors, along with such issues as purchasing systems, software programs, and memory functions.

Mifflin High School — New Design Ideas That Work

Vol 17, Num 05
Sep-Oct 1979, Pg. 07-09

Underwood, Kent C.
Presentation of design features of the Mifflin High School in Columbus, Ohio. Described are the unique features of the three elements of the school; 1) the library learning center, 2) the performing arts center, 3) the interior circulation system in the school.

Movable Bottom Pools: The Ultimate in Flexibility

Vol 17, Num 05
Sep-Oct 1979, Pg. 20-23

Jenkins, Judith
Description of the concept of movable floors in swimming pools and the method of operation. Presented are the advantages of increased flexibility this provides for the various users of the pool facility.

Schools for a New City: A Rural School System's Planned Response to Rapid Growth and Change

Vol 17, Num 05
Sep-Oct 1979, Pg. 23-26

Davis, Georgia L.
Presented is the process of planning, and the involvement of educational facilities in the new town of Columbia, in Rural Howard County, Maryland. Described is the participatory planning process for the future development of schools in the rapidly growing town.

The Impact of Color and Lighting in Schools

Vol 17, Num 05
Sep-Oct 1979, Pg. 16-18

Faily, Anwar, Davele E. Bursor, and Richard A. Musemech
Presentation of concepts of the effects of color and lighting on humans in school facilities. Outlined are the physiological impacts of lighting types and colors, the psychological effects on humans of colors, and the energy impact of lighting levels.

With the Four-Day Week, Energy Conservation is Everyone's Business at DCCC

Vol 17, Num 05
Sep-Oct 1979, Pg. 11-12

Wise, William A.
The effects of the Delaware County Community College in energy conservation are described. In particular the program of operation on a four day week (Monday to Thursday) and the effect of this on energy conservation.

A Place to Call Our Own

Vol 17, Num 06
Nov-Dec 1979, Pg. 07-08

Vornberg, James A.
A discussion of schools which provide faculty offices for teachers rather than providing as many facilities within the classrooms. The benefits and advantages of this type of arrangement are described, noting that this is useful for secondary teachers but was under utilized by elementary teachers.

A Playground for Fun and Learning

Vol 17, Num 06
Nov-Dec 1979, Pg. 04

Bingamon, Nancy
Presentation of the participatory planning and construction of the playground facility at Northlake Elementary School in Richardson, Texas. Described are the unique solutions developed for the difficult sloping site, and the 'safety town.' Developed to enhance instruction in areas of safety that students may encounter at home and in the community.

Another Challenge in Conserving Electrical Energy — KVA

Vol 17, Num 06
Nov-Dec 1979, Pg. 12-14

Estes, R.C.
Description of energy conservation measures used in the design of the new high school in Alief Independent School District in Alief, Texas. Emphasis is placed on the method of reducing the KVA demand peak by shifting electrical loads to off hours by use of ice macines in the air conditioning system of the school.

School Building Design: The Building as an Instructional Tool

Vol 17, Num 06
Nov-Dec 1979, Pg. 07

Rakestraw, William E.
Description of the planning of the new Dallas' Science and Technology Magnet High School to enable the new facility to be used as a learning tool. Described are the energy conserving systems incorporated into the design and the students participation in the operation and monitoring of the systems.

School Planners Can Share In Rebuilding Public Confidence In Schools

Vol 17, Num 06
Nov-Dec 1979, Pg. 14-15

Earthman, Glen
Presented is the fact that public confidence in the educational system is declining and the effect that the condition of school facilities has on the public's perseption of the school administration. Discussed is the advantages and positive aspects of a comprehensive facility planning process including long range and short term plans, community involvement, systematic maintenance and helping students build a sense of community.

Solar Collection Systems: The Rationale

Vol 17, Num 06
Nov-Dec 1979, Pg. 10-12

Padillo, Robert
This article provides solar system designers with several reasons behind the devices used in liquid media solar collection systems. Various systems, components, and operations of solar collection systems are described.

The Physical Environment and the Learning Process

Vol 17, Num 06
Nov-Dec 1979, Pg. 05

King, Jonathan, and Robert Marans
Abstract of the research 'The physical environment and the learning process.' Description of the summary presentation of research efforts that examine the relationship between a students learning and their environment. The four parts of the report are discussed. These are: 1) The approach taken in research, 2) Brief summary of research findings, 3) suggested areas of additional research, 4) research abstracts.

Utilization of University Facilities for School Age Children

Vol 17, Num 06
Nov-Dec 1979, Pg. 05-06

Seeley, Kenneth R.
Description of the 'University for Youth' program offered at the University of Denver. This is a program that opens up, and takes advantage of the University's facilities and staff to enhance the education of gifted school-age children. The operation of the program is discussed along with the benefits gained by interaction between the University and the schools.

Community Education and the Energy Problem

Vol 18, Num 01
Jan-Feb 1980, Pg. 10-13

Carsie K. Denning, Edmond A. Leblanc
Administrators should formulate decisions on resource usage from an interrelated systems reference—ie. look at the school and community as a single energy use system. School building utilization, total system cost effectiveness and total system energy efficiency are considered. Decreasing energy consumption in one element may increase energy consumption as a whole because 20 to 40% of the energy being consumed in providing school services is being wasted. US National Energy Conservation Policy Act of 1978 uses energy consumption per hour of operation as a evaluation criteria. Maximizing the efficiency of a building during each hour is more effective than reducing the hours of operation. Three examples demonstrate the difference. Studies are N.C., N.Y., and an extended day computer simulation. Conclusions are: increasing efficiency in existing services 1. reduces energy use more effectively, 2. maintains the existing level of utilization, 3. provides a greater return, 4. maintains desired services.

Community Involvement in the Planning Process

Vol 18, Num 01
Jan-Feb 1980, Pg. 05-06

Graves, Ben E.
Ben Graves gives an excellent description of the process of increasing community involvement and awareness in planning school facilities. This process allows the layman to become part of the process at an early stage. Advisory committee should be broad based, representing school staff as well as a cross-section of the community. Assumes principal and some staff will be permanent in the planning process. Committee purpose is to assist educational, architectural, and construction professionals to assure the facility enhances the educational program. Each committee begins with an orientation session where District specialists explain the planning process, outlines time frame to assure orderly development and approval, develops written ed. specifications to define program to the architect, reviews design and is available to assess progress. Committee

makeup— assistant supt. of schools, representatives of all local school committees, advisory groups, students, parents and some school staff.

Managing Underutilized Facilities During A Period of Declining Pupil Enrollment

Vol 18, Num 01
Jan-Feb 1980, Pg. 14-15

Ringers, Joseph Jr.
A descriptive study of Arlington Virginia is presented to discover the political interactions leading to policy decisions for the management of underutilized school facilities, determine actual policies which resulted from those activities, and investigate the satisfaction of those who participated in the process. Development of the policies passed through three periods: 1. Preperation 2. Issue clarification 3. Implementation of policies. The author describes these stages, as well as six key areas: 1. Development of policies 2. Identification of underutilized space 3. alternative use priorities 4. alternative uses 5. consideration process 6. financial considerations.

Planning for Public Schools Infrastructure Fee and Developer Responsibilities

Vol 18, Num 01
Jan-Feb 1980, Pg. 04-05

Kirshenstein, Joel
Dr. Kirshenstein points out that when viewed in an antagonistic manner even potentially supportive input and cooperation can become a negative influence in the planning process. Several California districts created volatile situations by demanding developers replace the State as the provider of schools without meaningful dialogue. The author offers suggestions to help avoid or extricate ourselves from such conflicts. Planning problems as the result of prop. 13 and other legislative cutbacks in district administration; elimination of general fund allocations for planning consultants; accelerated deterioration of existing facilities; elimination of funds for capital improvement and for site acquisition. As a result projects have been placed in limbo or halted because districts are unable to provide essential data when needed; data is inaccurate; long term facility plans are non-existant confusion created by lack of coordination between agencies; public misperception of overcrowding is engendered. These inadeqaucies of school planning has led to many dilemnas. The task is to establish cooperation between public and private sectors; formulate methods for developing strategies; define procedures, processes and goals regarding developer fees; enlist the building industries as quasi-ombudsmen between public needs & districts capabilities.

S.E.L.F. The Idea: The Facility

Vol 18, Num 01
Jan-Feb 1980, Pg. 06-07

King, David E.
S.E.L.F. (Secondary Education Learning Facilitator) The Irvine IDEA is based on the premise that the learner is responsible for learning and that the school could only help or hinder the process. SELF school considers each student as an individual, emphasises the role of the individual as a member of a small community of learners, teaches life skills, provides options of time and place for learning to occur, teaches students to make decisions, challenges students to be involved, and the right to review is reserved by the staff. The FACILITY planning utilized the participatory management needed to allow teachers, administrators, staff, community representatives, and students to participate in the planning process. The joint use and occupancy provisions of the state education code allows schools to enter into joint use and occupancy agreements with private developers. In exchange for lease free use of a portion of school land, the developer builds a school facility on the remainder of the site at no cost to the district. Time period is negociated, not to exceed 66 years. The article discusses the process, plan is shown.

Vocational Facilities: The Interface Between Teacher Planning and Subsequent Satisfaction

Vol 18, Num 01
Jan-Feb 1980, Pg. 15

Crowell, Nan
This article describes a study about vocational facilities to be conducted in Houston, TX. The purpose of the study will be to determine the impact of vocational teachers' involvement in facility planning upon the subsequent teacher satisfaction of these facilities. Other influencing factors will be identified and weighed. Facilities occupied no more than 2 years or less than 6 months will be included in the study. The findings will be used to justify the inclusion of architects and school administrators in the planning process.

A Different Look at the Big School Small School Issue

Vol 18, Num 02
Mar-Apr 1980, Pg. 12-13

Smith, Nancy R.
Nancy Smith describes a study replicating the work completed by Barker and Gump (1972) in Big Schools, Small Schools. Additional data gathered investigates student participation, satisfaction and parential participation in the large and small elementary school.

Color Selection — A Key Element in Learning

Vol 18, Num 02
Mar-Apr 1980, Pg. 06-07

Smith, Nancy R.
Carefully planned experiments by psychologists have proven that modern principles of color applied to schools will greatly improve the scholastic performance of students. Colors effects on emotions are explored in the article, pointing out the differences that warm colors vs. cool colors have on learning. Color effects, and the appropriate choice of colors for the different levels of schooling (primary, secondary, higher education), auditorium and specialty classrooms are covered as well.

Energy Efficient Design: Southeast of Saline K-12 School, USD306, Saline Co., KS

Vol 18, Num 02
Mar-Apr 1980, Pg. 07-10

From Materials Prepared by Wilson and Company — Saline KS - American Air Filter
A brief description of the background of the school district. The needs of 12 buildings in 4 communities were met by building a school for up to 700 students, seperating kindergarten, elementary, junior high, and senior high general learning class, joint use of special areas without cross traffic, and public use for special events. The building design incorporates several energy conserving features, including supplemental solar heating. The facilities are self supportive — relying only on an outside source for electrical power. Three weeks of water, and a sewage lagoon is tucked away in a remote ravine. Lighting, and use of students body heat, help to heat the building. Lighting is designed to reduce power usage by 25%. Solar energy supplies 80% of the domestic hot water needs, and 50% of the building's space heat needs. A mechanical systems diagram is included.

How To Get The Most From Your Present Lighting System

Vol 18, Num 02
Mar-Apr 1980, Pg. 10-12

Dorsey, R.T.
Lighting considerations include the right amount of light being adequate where the work is being done, the right quality of light being shielded so the system is not glaring, and the avoidance of excessive reflections. Color is important in lighting, and color rendition is critical in art and sewing rooms, etc. Better lighting enables children to remember better. Lighting is also an important safety consideration in labs. Three ways to save energy dollars are covered in depth. The authors ten 'rules' for savings are covered as well.

New Research Materials for Special Education Facilities

Vol 18, Num 02
Mar-Apr 1980, Pg. 14

Abend, C. Allen, M.J. Bednar, V.J. Froehlinger, and Y. Stenzler
This publication recognizes the essentiality of barrier free buildings but extends its major focus on non-restrictive environments for special education students. Its stated purpose is "to assist educators, architects, facility planners, parents and students in planning new or renovated facilities" through the development of design criteria. The major portion of the report provides design guidlines. The format of the publication uses the stated criteria along with a brief description for each. Helpful graphics included. Facilities for special education services: A guide for planning new and renovated schools. Reston, VA. The Council for Exceptional Children 1979.

The Impact of School Building Age on Public Achievement

Vol 18, Num 02
Mar-Apr 1980, Pg. 13-14

Chan, Tak Cheug
Tak Cheung Chan describes the study which investigated the relationship of school building age and academic achievement of pupils taught within schools of varying age. Population consisted of all the standard public schools in the State of Georgia containing 8th grade pupils in 1975-76 three types of buildings: 1. old non-modernized school buildings, 2. partially modernized school buildings, 3. modern school buildings. The data yielded indicated that pupils in school buildings with modern facilities attained higher achievement than pupils in school buildings with older facilities.

The Physical Environment — Revisited

Vol 18, Num 02
Mar-Apr 1980, Pg. 04-06

Day, C. William
Thermal, visual and acoustical elements contribute to the total environment that enables a child to better enjoy school and that enhances learning responses. The physical environment should contain an optimum balence of thermal conditions, lighting conditions, and acoustical conditions. Students experience approximately a 2% reduction in learning ability for every degree a room fluctuates from the optimum. Compact buildings offer greater control and reduced operating and maintenance costs. Temperature control is easier and less costly to maintain when carpet covers the floor. Approximately 80% of learning is accomplished through vision. Balanced lighting should be directed on the task and eliminate glare. Some colors tend to stimulate, some soothe and relax, and others create fatigue, depression and irritation. Exacting visual activities on mental tasks are

best performed in a soft environment. Good sound conditions are necessary to have good communication. The major effects of unwanted sound on students are annoyances, loss of efficiency, auditory faigue and partial or permanent hearing loss. Classrooms should have equal proportions of length to width. Irregular surfaces and carpet improve acoustics.

A Model for the Development of Educational Specifications for Small Schools

Vol 18, Num 03
May-Jun 1980, Pg. 11-12

Wilkinson, Raymond K.
The purpose of Dr. Wilkinson's study was to prepare a planning model which could be followed as a guide by a community preparing educational specifications for a small school in Michigan. Ten major conclusions are drawn as a result of information and experience gained during the course of the study.

Closing the Circle: The Architect as Facilitator for the Community's Needs

Vol 18, Num 03
May-Jun 1980, Pg. 07-09

Henderson, Phillip
Mr. Philip Henderson states that the architect's major objective should be the task of providing communication with the users regarding the form of the structure. On a larger scale — larger than the school district and outside of the educational organization — the architect can serve as the communication link between two or more governmental units or community agencies. If the project team represents all points of view in simplified terms, it consists of the owner, the operator, the user and the architect. The architect is charged with bringing the ideas and requirements of the other three into a viable solution. Each team member having a viewpoint with a vested interest can benefit from a facilitator. A facilitator's objective is consensus among the participants. The generalist training of an architect is an excellent basis for an understanding of how to make this agreement occur. The architect must be objective in reviewing the elements proposed and must combine the objectives of each viewpoint with the least degree of compromise to the others. The architect's major objective is to make the connection between use and form that is unique to the project. The more restrictive the building becomes to meet specific program and operational ideas, the more likely it is to become obsolete. An architect can evaluate the project in relationship to other facilities in the community and demonstrate how buildings can serve more than one purpose.

Do We Have Time to Communicate?

Vol 18, Num 03
May-Jun 1980, Pg. 09-10

Bowen, Gerald D.
Gerald Bowen raises the practical point that perhaps there is a cost factor to the communication process in planning and constructing school facilities and that this cost may be enlarged by ineffective communication. Mr. Bowen further states that as costly as communication might be in terms of human resources, the lack of communication is even more costly in terms of what the facility might or might not be. Communication is the one criteria that will enhance and more nearly: 1) maximize use of the facility for the dollar invested; 2) maximize service and 3) minimize costs in energy, maintenance and operations. Lack of communication will impede the overall planning process, resulting in several undesired effects. Communication is examined throughout the school planning and construction process.

Energy Performance Standards for New Buildings

Vol 18, Num 03
May-Jun 1980, Pg. 12-14

U.S. Department of Energy, Office of Public Affairs, Washington D.C.
This article from DOE FACTS, November 1979 discusses legislative objectives, proposed standards, and the environmental and economic impact of these proposed standards. Ten technical support documents are also summarized.

The Art of Communicating

Vol 18, Num 03
May-Jun 1980, Pg. 05-07

Saunders, Harry P.
Harry Saunders reminds us that effective communication is especially important in school closure actions. As a Director of School Facility Planning and Construction in two major city school systems and as a consultant for several smaller school districts, Saunders reflects on his experience. A list of fourteen guidelines for effective communication is included.

The Mutual Expectations of Superintendents, School Board Chairpersons, and Architects for Their Roles in Planning, Designing, and Building School Facilities in the State of South Carolina

Vol 18, Num 03
May-Jun 1980, Pg. 12

Walters, Richard A.
The study by Dr. Walters concludes that specific role definition did not exist, making it difficult for individuals involved in planning, designing, and building a school facility.

Therefore, more study should be devoted to the individual roles and to the various responsibilities specific for the superintendent, board chair-person, and the architect.

The Relationship of High School Size and Program Quality

Vol 18, Num 03
May-Jun 1980, Pg. 10-11

Pethel, Glenn E.
Dr. Pethel's study examined the relationship of school size and program quality in the public high schools of Georgia. The purpose of the study was to determine the relationship between school size and program quality indicator contained in standards for public schools of Georgia in the public high schools in the state of Georgia.

The Superintendent as a Communicator

Vol 18, Num 03
May-Jun 1980, Pg. 04-05

Marcase, Michael P.
Dr. Michael Marcase points out that it is necessary to know the constituent groups in one's community, but equally important is to be able to communicate with them in their own manner and in some cases on their own turf. His ideas about going out into the community to meet with groups rather than have the groups come to the administrator illustrate how the communications process can be enhanced. He discusses some methods of communication that help broaden the decision making process and implementation efforts necessary to successful education leadership. Decision making techniques are shared. This broadened participation translates into broadened support for the schools.

Community Use of School Facilities: A Legal Primer

Vol 18, Num 04
Jul-Aug 1980, Pg. 13-17

Parker, Bobby E.
Bobby Parker's "Legal Primer" presents some of the ramifications of community use of school facilities. The power to determine how school facilities are to be used rests completely with its legislature of the state, except for possible constitutional restrictions. Generally accepted is the rule that boards of education may permit school buildings to be used by non-school groups under certain restrictions. This authority may be limited through express statutes. In the article Mr. Parker discusses 1. general rights of local school boards, 2. use of school facilities by non school groups, 3. use of school facilities for religious purposes, 4. tort liability of school districts and school personnel. Parker summarizes the judicial findings and concludes with eight recommendations to boards considering community use of school facilities.

Conservation of Electricity — Fluorescent Lights

Vol 18, Num 04
Jul-Aug 1980, Pg. 18-19

Bryan, Robert P.
Robert Bryan illustrates that based on a classroom in a normal day, the lights in each classroom could be turned off for five minutes each hour, conserving energy and saving money. Net savings for the example was about $26 for 50 lamps costing $1.60 each and $1 to replace with power costs at $0.04 per KWH.

Examining Alternative Reuses of Burnet Junior High School: A Cooperative Planning Experience

Vol 18, Num 04
Jul-Aug 1980, Pg. 11-13

Petracco, Robert M.
Robert Pertacco, Director of Community Education, Township Union Board of Education, NJ describes the December 1979 three day laboratory. The purpose of the workshop was 1. to totally involve a broad and diversified segment of Union's population; and 2. to identify and recommend possible alternate uses for the Burnet junior high school building. The article describes the purpose, process, background information (documents provided), workshop interactions, results, general recommendations established by the community and concludes that a full report of the laboratory and its findings become the foundation of an action plan to establish Burnet junior high school as a community education center.

Participatory Planning

Vol 18, Num 04
Jul-Aug 1980, Pg. 04-06

DeJong, William S.
Dr. DeJong presents a comprehensive participatory planning process in this descriptive synopsis of a "Planning Assistance Kit," designed to assist local communities in participatory planning. Developed under the leadership of the Educational Facilities Laboratory through a grant from the Charles Stewart Mott Foundation, the kit is composed of wall charts, workbooks and audiovisual presentation and is available through CEFPI.

Research Review: Municipal Cost Benefits in the Construction of a Community School

Vol 18, Num 04
Jul-Aug 1980, Pg. 06-07

Herr, Audrey
This 1979 study by Dr. Herr was conducted to determine what, if any, are the cost benefits to a municipality in constructing a community school that would provide facilities

for community use, as compared with the construction costs for the scame facilities as independent units. The facilities selected for this purpose were those already existing at some community schools. A table is included as developed for an elementary school with 600 students having a library seating 120 with 12000 volumes, a pool, locker rooms, all purpose room, health and dental clinic, theatre (auditorium). The table presents the estimated sizes and costs of facilities constructed for three different conditions: 1. community use only, 2. school use only, 3. combined use of school and community. The findings conclude that based on conservative approximations a municipality could save more than $1.5 million by including the identified community facilities in a school building. The total savings could surpass $2 million if site acquisition costs, lost revenue, equipment, plumbing and utility costs are considered.

The Grand Rapids Planning Laboratory

Vol 18, Num 04
Jul-Aug 1980, Pg. 8-11

Miller, Milton J.
Milt Miller who in 1979 was Director of Educational Facility Planning for Grand Rapids, Michigan Public Schools describes its background, process and resulting observations of the CEFPI planning laboratory which occurred at Grand Rapids in 1979. The city had experienced an increase in adult education from less than 1000 full time equated students in 1971-72 to more than 55,000 enrolled in one or more classes in 1979-80. Consultants from CEFPI and EFL worked with the community to improve educational and human services in Grand Rapids. A summary of the Grand Rapids Planning Laboratory was written and illustrated by C. WIlliam Brubaker and is available from Director of Educational Facilities Planning, Grand Rapids Public Schools, 143 Bostwick, NE, Grand Rapids Michigan 49503.

Tipp City, Ohio — Who Learned What?

Vol 18, Num 04
Jul-Aug 1980, Pg. 06-08

Wilson, Mary Low
Mary Low Wilson, Director of Tipp Monroe Community Services, Inc. Tipp City Ohio, describes the community-involved planning process conducted by Dr. William S. DeJong. The article describes some of the background of the needs of the Tipp City - Monroe Township and the participatory planning process utilized to resolve these needs. This charette process occurred on October 16, 17, and 18, 1979. The goal statements of the planning laboratory are outlined.

Bring "Biddy" Back...With a New Apron

Vol 18, Num 05
Sep-Oct 1980, Pg. 14-16

Kier, Milton G.
Milton Kier presents Wisconsin's Unity School District's approach to the return of adults to this district's schools. Programs are designed from widely established experience to cope with identified and growing community needs. Every facility is accessible to every person. Virtually all Unity planning features optimism tempered by humanism, futurism contracted to history and consumerism governed by representative committees. Examples of inflationary trends toward concentration of facilities and services are given. Factors, related to lifestyles, which can be incorporated in schools are discussed. The process of cultured transmission by word of mouth from generation to generation is presented as one part of the potential for a unified community education.

Camelot — Where Senior Citizens Thrive

Vol 18, Num 05
Sep-Oct 1980, Pg. 18-20

Livix, Harvey
Dr. Harvey Livix describes the facilities and philosophy of lifelong education at Camelot Manor Sun City, Arizona. This facility which houses 150 senior adult residents is based on research data which indicates that isolation, loneliness and the feeling of uselessness largely disappears when the senior adult lives in a community of peers. Residents receive more life satisfaction than their contemporaries in the community at large. Persons who live within a peer group environment tend to develop greater independance, which in turn, allows and encourages fuller more responsive and more mutually beneficial relationships with family and friends. Camelot's apartment unit, apartment exterior, commons building, outdoor areas and community links are described.

Facility Management

Vol 18, Num 05
Sep-Oct 1980, Pg. 14-15

Graves, Ben
Educational facility planners are increasingly finding themselves serving as facility managers. Facility management requires an information system in place relating to capital investment. Graves presents 10 steps to establishing such a system.

Futuring for Lifelong Learning

Vol 18, Num 05
Sep-Oct 1980, Pg. 04-06

Leu, Donald J.
This article by Dr. Leu is intended to assist individuals, teams, school systems and related organizations in the planning of futuristic "Lifelong Education" program and facilities. The article examines the historical past and looks at emerging trends that should give direction to specific plans. Dr. Leu defines lifelong education as all the knowledge, skills and behavioral changes experienced by an individual during his/her lifetime. He briefly lists changes occuring in society, reviews inventions supporting lifelong education, looks at what were the major educational issues of the 1970's, forecasts what will be the major educational issues of the 1980's proposes new forms of "synergistic" lifelong education.

Research Review: Surplus School Space — Options and Trends

Vol 18, Num 05
Sep-Oct 1980, Pg. 21-23

Mitchell, Paul and Brian P. Miller
In this 1980 abstract Paul Mitchell and Brian Miller discuss the changes occuring in American society and report on the data received from a survey of fourteen Arizona school districts showing what is being done with facilities where declining enrollment has or is taking place.

The Adult Learning Centre of the Future: an Essay on Inner Space

Vol 18, Num 05
Sep-Oct 1980, Pg. 06-12

Rohman, Gordon
Dr. Rohman reminds us that the real learning centre of the future must be designed not for outer glass and steel but for inner flesh and blood. In his article he looks at 1. Inner space: the person and changes that are occuring in people's approach to life and work; 2. Outer space: mindscapes that affect us, that we should be aware of. He states that a building is a mini-mindscape that orients us symbolically in space. It is a frame of reference that continuously reflects and communicates the values of its builders and managers. He indicates the spoken 3R's of curriculum behavior as rules, regulations and routines and proposes a whole new curriculum to fill the "Outer Space" with 3 new R's: Reorganization, Redecoration, and Reimagination. He concludes by suggesting the type of person who might staff such an "Ec-center" and how they might teach learning.

The Lifelong University: A Challenge to Collegiate Tradition

Vol 18, Num 05
Sep-Oct 1980, Pg. 12-14

Votruba, James C.
James Votruba compares the traditional university and the lifelong university and makes the reader aware of emerging changes in the mission of some institutions. There is an aging population, lifestyles are rapidly changing and the dependence upon new information and technology is increasing. Public support of universities will be linked to their ability to meet the demand for lifelong education. The ways adults learn and the conditions which need to be satisfied are discussed. Several fundamental traditions related to the collegiate enterprise will be challenged: who should teach? Who should learn? When should learning take place? Where should learning take place? How should learning take place? Votruba warns planners of the need to understand the unique characteristics and learning needs of adults.

The Rebirth of Brookley Center

Vol 18, Num 05
Sep-Oct 1980, Pg. 16-18

Bunnell, M. and Thomas L. Wells
Ed. Bunnell and Tom Wells describe "The Rebirth of Brookley Center" at the University of South Alabama. This former air force base on Mobile Bay has its first rebirth beginning in 1969 as it emerged as a popular university conference and lifelong education center. At the time of this article its second "rebirth" was nearing completion after hurricane Fredrick struck in September 1978. The article describes the facilities available at the center and some of the administrative and maintenance problems encountered.

Cebrace — Centro Brasileiro de Construcoes e Equipmentos Escolares

Vol 18, Num 06
Nov-Dec 1980, Pg. 07-08

Jose Maria de Araujo Souza
Jose Maria de Araujo Souza, a Brazilian architect was the general director of CEBRACE at the time be wrote this article. Cebrace, an agency of the ministry of educational culture of Brazil, was created by a federal decree in 1973. Cebrace operates through agreements and contracts either with public and private organizations, or individual experts and consultants. The article describes the basic aims of this Brazilian center for the construction and equipping of schools, the activities developed to achieve these aims, and lists the completed and ongoing projetcs.

Conescal

Vol 18, Num 06
Nov-Dec 1980, Pg. 10-11

Barrientos, Alonso
Alonso Barrientos, an engineer, was at the time this article Director of Consecal (the regional school building centre for Latin America and the Carribean) which works as international consultant on educational facilities planning according to the conditions prevailing in the countries within the Latin American region. The most relevant technical assistance activities beeing carried out are described for Mexico, Panama, Chile, Ecuador, and Venezuela.

Federal Regulations and the Cost of School Building Alterations

Vol 18, Num 06
Nov-Dec 1980, Pg. 12-13

Hackman, Naomi H.
Dr. Hackman's abstract indicates the purpose of her study was to determine: 1. how much it has cost school districts that have made renovations to provide barrier free buildings and grounds, and 2. the presence of cost influencing factors (such as appeals for variances, making of changes other than structural changes to bring about compliance to the regulations and problems that have been encountered). Cost figures and catagories are included in the abstract.

Planning an Educational Facility for Cultural Interaction

Vol 18, Num 06
Nov-Dec 1980, Pg. 04-05

Parker, James A.
Dr. Parker acknowledges that today's schools contain children of many diverse cultured backgrounds therefore it is critical to plan schools for cultural interaction. He suggests three emphases be considered in planning an intercultural educational setting: 1. facilities to help students develop skills necessary to understand, to stimulate the students to use all the languages thry know or are learning, 3. ways to demonstrate the value of the students' and teachers' cultural backgrounds. Examples illustrating how these three tenets provide the rationale for cultural interaction are included. In planning an educational facility for culutural interaction, flexibility in classroom and hall space for multipurpose use is a primary consideration. Develop spaces that stimulate and enhance interaction and growth.

Planning for School Building in Hong Kong

Vol 18, Num 06
Nov-Dec 1980, Pg. 08-10

Chan, Tak Cheung
Dr. Chan describes the planning for school building in Hong Kong — the secondary school building program which provides buildings by the government and handed over to sponsors to equip; the planning difficulties encountered by a large population with limited land and special environmental condition; the development trends based on current issues and comments on the educational quality of Hong Kong's schools.

Reducing Energy Costs in Ohio Schools with Computerized Energy Management

Vol 18, Num 06
Nov-Dec 1980, Pg. 14-15

Adapted from a report by the Energy Management Information Center, Honeywell Inc.
This 1978-79 study assesses the potential for enegy cost savings in Ohio elementary and secondary schools through computerized energy management. The article highlights the findings of the study. The advantages of energy management by time-shared computer are discussed. Specific savings for representative Ohio schools are summarized. Two working examples of case studies are illustrated.

The Reflection of Attitudes to Education in Architecture

Vol 18, Num 06
Nov-Dec 1980, Pg. 05-07

WIlliamson, H. Jan
Dr. Williamson describes how the Mount Clear Technical High School, 80 miles from Melbourne Australia, was designed to provide facilities for technical students and teachers which would make them feel that they were important members of the educational community. The facility is designed around a multi-activity centre and utilizes extensive use of glass, plantation strips, closed circuit security monitors, low maintenace wall surfaces and removal of a factory appearance